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ORIGINAL ARTICLES.

LAKEWOOD AS A WINTER RESORT.

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OF LAKEWOOD, N. J.

WHILE much is written in the daily papers about Lakewood as a fashionable resort during the winter months, and many people know of it as a place in which to spend a jolly holiday season, few stop to think why it is so attractive to the tired city folk, and fewer still appreciate the reasons that make it more than an ordinary pleasure ground.

It will be my aim in the first place to bring together facts showing the physical characteristics of the place, and in the second place to give my reasons for regarding Lakewood as unique among the resorts of this country.

The village of Lakewood was known until 1832 as Washington Furnace, then until 1865 as Bergen Iron Works, and from then until 1880 as Bricksburg. Since 1880 its name has expressed the two main natural features of the place, a lake surrounded by woods. In earlier years, as the name implied, Lakewood was given over to the iron industry, and also derived some importance from its situation on the highway from Freehold, the county seat of old Monmouth County, to Toms River, the most important sea-coast town of the vicinity.

Lakewood is distant from Jersey City, Philadelphia and Atlantic City about sixty miles by rail, and is very easy of access from all of these cities, express trains covering the distance in from one and a half to two hours. It is also easily reached by carriage from the sea-coast, being but nine miles from Point Pleasant and ten miles from Toms River. As the crow flies, the sea-coast is but seven miles off, in a south-easterly direction, and in the spring and summer, sea-breezes tempered by sweeping through the pines, give Lakewood a whiff of salt air.

The peculiarities of situation and surroundings which make Lakewood unique in the Northern States are due to its sandy soil and pine forests. There is a pine and sand belt from 8-20 miles in breadth, stretching inland from the coast for about sixty miles, and on the northern border of this belt lies Lakewood.[1]

The depth of the sand varies throughout this extent. At Lakewood it has been shown to reach a depth of from 500-600 feet, thus furnishing the driest possible soil. The pine forests extend in all directions and are especially thick to the north and west. As the prevailing winds during the fall and winter come from these directions, they are necessarily much tempered by blowing across these great areas of pine woods, losing thereby some of their harshness. It is a popular notion among many frequenters of Lakewood, that they derive great benefit from breathing in the pine air. This theory, while it may not rest on a scientific basis, does much good in encouraging people to live out-of-doors, and can therefore be conscientiously encouraged.

A great deal has been written and said about the temperature of Lakewood being from ten to twelve degrees warmer than that of New York, and this statement even finds a place in Solly's Medical Climatology. While this is partially true, it is somewhat misleading and should be carefully explained. There is no doubt that warm weather holds until later in the fall, and commences earlier in the spring than in the surrounding cities, but during a cold snap the thermometer goes down to fifteen or ten or even five degrees above zero. It rarely stays low for any length of time, and the great preponderance of sunny days gives the sensation of greater warmth than the thermometer actually shows.

The greatest factor in the apparent warmth of the climate is a low percentage of humidity. Records which I have kept by means of a Draper self-recording thermometer give the average temperature for the winter season of 1899-1900 as follows: October, 63.39° F.; November, 52.53° F.; December, 44.85° F.; January, 42.89° F.; February, 40.94° F.; March, 46.71° F.; April, 57.97° F.; May, 63.16° F.

During this time there were several cold snaps which brought the averages somewhat lower than in other years. But cold weather, that is with the thermometer below 32° F., almost invariably means bright sunshine, and a cold damp day is the exception.

The average height of the barometer from October, 1899, to June, 1900, was 30.07 degrees. The record of humidity in Lakewood is something quite surprising. There being no self-registering hygrometers it is impossible to keep an accurate record, as the variations are so sudden that there will often be a difference of 40 per cent. in half an hour. The figures I shall give have been observed by me personally, and as far as they go, are accurate.

I would call the average humidity of Lakewood for the hours from 9 a. m. to 5 p. m. about 45 per cent. Before and after these hours it runs up from 65 per cent. to 85 per cent. A very common reading from 11 a. m. to 3 p. m. is 25 to 30 per cent. On November 21st I made the following remarkable observation: After a sudden and very heavy rain-storm lasting about one hour, the thermometer dropped 20 degrees,

[1] See The Pine Belt of New Jersey. Isaac Hull Platt, M.D., Transactions of the American Climatological Association, 1889.

the barometer rose 0.35 degrees, and the hygrometer registered 0 per cent. Not believing such a thing possible, I carried the instrument into the house, when it promptly rose to 60 per cent. On placing it again out of doors in the wind, which was blowing strongly from the south, it dropped again to 0 per cent. and stayed there for about two hours. I have frequently seen the instrument at 15 per cent. to 20 per cent. for hours at a time. All this goes to show, not that Lakewood is the driest place in the United States, for that is not so, but that the average humidity is low, and at times, and that almost daily, there is no appreciable moisture in the air.

As I have said before, this state of things is brought about by conditions of soil and surroundings which are unique in a northern climate. Let me give one recent instance of the rapidity with which moisture disappears. On December 21st last, between 4 and 5 p. m., five inches of snow fell. The morning of the 22d was crisp and cold, with brilliant sunshine. In the afternoon it grew warm, and during the night the snow melted rapidly. On the 23d it rained, and by the morning of the 24th every vestige of snow had disappeared, the ground was bare and the principal streets were dry enough for bicycling. This condition of heavy rain and snow, followed within forty-eight hours by dry roads fit for walking or wheeling is a very common one. The percentage of sunshiny days is very large, and this fact adds greatly to Lakewood's usefulness as a resort.

The depth of the sandy soil guarantees a perfect water-supply. The large hotels and some individuals have sunken artesian wells from 500 to 700 feet in depth, and have thus secured for themselves an inexhaustible supply of the purest water. The village at large is supplied from a series of artesian wells combined with lake-water which filters itself through several feet of sand into earthen pipes. This water has been shown by careful analysis to be entirely fit for drinking and cooking purposes. A carefully planned and regulated system of drainage is under the same supervision as the water-supply, and no pains are spared by the authorities to keep the drainage and water-supply as perfect as possible.

Lakewood's population consists of the regular inhabitants and the guests at hotels and cottages. The former amount to between two and three thousand, and this number is nearly doubled during the height of the season. A more cosmopolitan population one would have much difficulty in finding. All the large cities of the east send their regular contingents, and it is a common saying among old residents that if you will have patience you will in time meet every one you ever knew at one or the other of the hotels. The residents have done a great deal to beautify the village, and they take both pride and pleasure in doing so.

With all these natural advantages it is not difficult to see why Lakewood should be especially adapted for a winter resort. But the natural advantages alone would not induce so many hundreds of people each season to spend weeks and even months in this little village. To Nature's best, there have been added in the way of hotel and cottage accommodations all that man's ingenuity can invent. The large hotels provide the very best accommodations possible, with cuisine and service not surpassed anywhere, and in the small hotels and many excellent boarding-houses are accommodated hundreds who prefer a quieter and simpler life than the hotels afford. Nowhere in this country or abroad are the wants of the guests more carefully attended to and their welfare more fully consulted. And yet Lakewood does not give a stranger the impression of being full of invalids. Sick people there are in abundance, but they do not obtrude themselves upon the sight and attention of the well.

The great proportion of pleasant days make all outdoor sports possible to a far greater extent than is usual in our Northern States. Golf goes on throughout the fall and winter with such regularity, that tournaments, calling together the leading amateurs of the country, have become fixtures for Thanksgiving, Christmas and New Year's, and Lincoln's and Washington's birthdays. The hard, level roads are most inviting to wheelmen, and horseback-riding claims a large number of devotees. Hunting and polo-playing offer attractions to the more venturesome riders and the beautiful walks and drives into the woods in all directions give ample opportunity for all to enjoy exercise and fresh air.

The Lakewood season has for twenty years commenced with the opening of the Laurel House on October 1st and closed on June 1st. During the summer months few remain, but those who do so report almost uniformly pleasant weather, with periods of intense heat and frequent heavy thunder-storms.

In my opinion Lakewood owes its usefulness as a health resort chiefly to two factors. its comparative mildness of temperature and its phenomenal dryness. These two facts make it possible for chronic invalids and those recovering from acute illnesses to spend a large portion of their time out-of-doors in the bright sunshine. When to this are added the inducements to active exercise offered by bicycling and golfing, and the fact that these pastimes are possible nearly all winter long, owing to the extreme dryness of the soil, it is readily seen why people in all stages of weakness and strength are attracted.

While the newspapers have given Lakewood a certain degree of notoriety as the winter home of not a few society people, the majority of those who build houses and spend the winters here, originally settled on Lakewood as their home because of benefits which some members of their families have derived from the climate. This class of cottagers is slowly and steadily increasing.

This leads me to speak of a few of the conditions for which I believe Lakewood to be especially beneficial. Patients suffering from asthma find speedy and often permanent relief. Various forms of bronchial and laryngeal disease yield more quickly to treatment when combined with the out-of-door life possible here. Patients in the very first stages of tuberculous trouble often are able to arrest the process by a residence at Lakewood. But I wish just here to enter a strong protest against the custom of some physicians of sending advanced cases of phthisis to Lakewood, assuring the patients that a few weeks will make new men of them. My own firm conviction is that such cases do badly here, and should not be encouraged to come.

Other patients who do well at Lakewood are those convalescing from acute diseases. The change of scene from city life and surroundings and the constant incitement to outdoor exercise help to bring back appetite and strength. But here too, I wish to utter a word of caution. Too many patients come to Lakewood with instructions from their home physicians to "live out-of-doors." Consequently they start out by overdoing physically, and soon find themselves languid and overwrought, and instead of the rapid gain promised, they feel worse than when they left home. This condition could easily be avoided if the home physician would only insist on moderate exercise at first, increasing with the added strength gained. This may seem a small point, but by its careful observance, much harm can easily be prevented.

One more class of people derive marked benefit. To sufferers from the various forms of neurasthenia Lakewood offers especial attractions. From a rather extensive experience with such cases, I have reached the conclusion that nearly all forms of nervous prostration and excitement can be helped greatly. There is something in the atmosphere and surroundings which seems to have a quieting effect on overwrought nerves. It is a very common observation, even among laymen, that for several days after coming to Lakewood, one is constantly sleepy, showing how the nervous tension relaxes.

In what I have said I do not pretend to exhaust the list of conditions which make Lakewood what it is. I have simply touched on a few practical points. There is one more practical point which may be spoken of, and that is the expense of sending patients to such a place as Lakewood. It is often said that Lakewood is too expensive a place for many people to come to. Regarded simply from the economic standpoint of staying at home, the criticism is well taken. But when we take into consideration that other suitable and cheaper places, such as the far south or the far west can only be reached by long and expensive railway journeys, the matter of expense will not seem so great. Good accommodations can be secured from $2.50 a day up. Some few houses furnish lower rates, but the average is about $25.00 per week per person.

In closing let me remind you that Lakewood does not pretend to the dignity of a European Spa. It is simply a nearby country village, pretty and attractive, dry and sunshiny, free from malaria and infections of all kinds, so situated that outdoor life is possible nearly every day during the winter, and where delicate men, women and children have for many years past found returning health and vigor.

THE CLIMATIC TREATMENT OF CHRONIC BRIGHT'S DISEASE.

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IT is to be regretted that our knowledge of the effects of climate upon Bright's disease must be expressed for the most part in generalities, because almost no systematic observations have been made as to such influences. What has been done in this direction has been chiefly collection of mortality reports in certain districts which have been compared with each other.

Reasoning from general principles, we conclude that by far the most important factor in the treatment of chronic Bright's disease is that there should be as little cold, moisture and variation in temperature as possible. Hence, the hot, dry climate should be more beneficial than a cold, dry climate; either is better than a temperate climate, such as that found in the United States, with ground saturated with moisture and consequent dampness, with sudden changes of temperature, and marked difference between the day and night temperatures. It is acknowledged that renal disease is more prevalent in such a temperate climate, less in a cold, and rare in a warm. The kidneys do more work in a changing temperature climate and, therefore, are more subject to derangement, while in a hot climate the liver and skin are more disposed to disease, and in a cold climate the lungs. These tendencies must, of course, be influenced by such conditions as overwork, worry, syphilis, gout and excessive use of alcohol. In view of the increased function of the skin and kidneys through the ingestion of water, generally taken in large quantities, the hot, dry climate would seem best adapted to influence favorably renal disease.

Another important agency is the effect of winds, which are known to be very detrimental and which are met with in all, although they are more prevalent in cold climates.

Dr. S. E. Solly, in his book on Medical Climatology says, "The direct tendency of altitude in chronic nephritis, as in most chronic diseases, is toward its cure. This beneficial influence is, doubtless, mainly exerted through the increased

action of the lungs, and to a smaller extent, of the skin, which lessens the work of the kidneys, and diminishes the renal congestion by the general stimulating and equalizing of the circulation." He also states that he prefers a warm, low, inland climate, such as Egypt and Arizona, for the majority of cases of chronic Bright's disease. This is confirmed in part at least by Purdy's studies, which show a low rate of mortality in the South Mississippi river belt, where the mean elevation is 100 to 300 feet, the rainfall 50 to 55 inches, the mean temperature 60° to 65° F., and the death-rate from Bright's disease 3.14 per 1000 deaths, as determined from the census of 1880. The Southwest central region, with an elevation of 100 to 500 feet, rainfall of 35 to 50 inches, temperature of 60° to 70° F., has a mortality of only 1.97 per 1000. We cannot but think that some of these results may be due to the difficulty of securing accurate statistics in these regions. Based upon a record of the mortality of the disease, the States most unfavorable for patients suffering from renal disease are New Jersey, New York, Massachusetts, New Hampshire and Vermont, and those most favorable Tennessee, Georgia, Nebraska, North Carolina, Arkansas, Texas and certain parts of Southern California. It will be seen that the States that are the most favorable have about the same climatic conditions—even temperature, dryness and warmth, with less amount of wind velocity. This is the reverse in the States in which the mortality is greatest, and the climatic condition is one of moisture, changeability of temperature with coldness.

In grouping together large areas we find that the mortality is highest in the Middle Atlantic Coast region, next in the North Atlantic, and next in the Northeastern hills and plateaus, the South Atlantic Coast region, and, lastly and least, in the Southern Central region. In trying to explain the great variations in the death-rate in these different locations, Purdy rightly says that it is not to the climatic conditions alone in the Middle Atlantic Coast region that we must ascribe the greater number of deaths, but we must consider also the larger population, the habits and social condition of those living in the large cities, as well as the greater prevalence of certain diseases, like syphilis, scarlet fever and pneumonia, which predispose to Bright's disease. In the North Atlantic Coast region, in which we do not find the same social condition and as many of the diseases causing Bright's disease, but where the climate is far worse than in the Middle Atlantic region, we must admit a larger influence of climate.

In the Northeastern hills and plateaus, where the mortality is still less, there is more evenness of temperature than in the other two regions, although it is very cold and the winds are high; we must conclude that the lessened mortality is due to the small amount of moisture. Again, in the Southern Atlantic regions there is a low death-rate, and since moisture is more conspicuous, we must conclude that equality of temperature and diminished wind force are responsible factors.

Another feature which must be remembered in sending a patient to the region most suitable to his condition is that most cases of chronic Bright's disease have either a failing heart or one that has already lost compensation. Hence, we must not only decide upon a climate and an altitude suited to the renal affection, but also one that is adapted to the cardiac condition—a fact which makes the problem still more difficult. For such cases high altitudes are harmful.

TREATMENT OF SYPHILIS AT HOT SPRINGS, ARK.

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SYRIA and Chaldea—the latter having for its capital Babylon—were noted in ancient times as centers of debauchery. On the Assyrio-Babylonian cuneiform inscription tablets in the British Museum, derived from the royal library of Sardanapalus, it is related that Istar, the goddess of sinful love, proposed to Nimrod to become his wife, a proposition which the latter very ungallantly refused. Istar demanded satisfaction for this insult from her father, Anu. As a result, the sacred bull was sent against Nimrod and his friend Eabani. Eabani seized the animal by one horn and the root of its tail, while Nimrod fatally bored its heart with a weapon. Istar uttered an awful curse, to which Eabani replied by tearing out the penis of the bull and throwing it full in her face. A new curse was hurled by the goddess, and Eabani died after a short illness. Nimrod was likewise attacked with a painful disease. He wandered about until he reached the infernal regions, where he was given "magic food" for his complaint. This remedy apparently had no effect, for Nimrod continued to complain that the shadow of death lay on his genitals. The god of the infernal regions then took him to the ferryman, and bade him take the hero to the fountain of life, saying: "The man whom thou hast taken has his body covered with pustules; scales have altered the fairness of his body. Take him to the cleansing place, where he can wash his pustules clean and take off his skins; the water will carry them off; his body will appear well. The coverings of his head will be renewed, also the coverings of his shameful parts; by the time he returns to his country there will be no folds; all will be new." Then follows, after an interruption in the text, "He renewed his head coverings; the sheath which clothed his shameful parts was new when he reached his native land." Eabani evidently had lues, for Nimrod prayed that he might not die like his companion.

From mythological times the people have sought a fountain which to them should be a fountain of youth. So with us, from the time whereof the memory of man runneth not to the

contrary, this place has been the Mecca of syphilitics. In the mind of the laity the springs have been regarded as a specific for this disease. That these unfortunates do find relief from their sufferings in an almost incredibly short space of time cannot be denied.

Why do they get well here so much more rapidly than elsewhere? In the first place the hygienic treatment of this disease does not receive the attention which it should at the hands of the general practitioner or the specialist in our towns and cities. And yet this is the first line of treatment laid down by all syphilographers, and after it, and along with it, comes the specific. And whether we will or not, this class of patient get both lines of treatment in perfection. The patient, it may be, comes from the crowded and rushing life of the city and finds here all the comforts of the city plus something more—the exhilarating life of the pure country air, laden with all the ozone and freshness of the Ozark Mountains—from the dust and hurry and strife of the busy city to the quietness and freshness and greenness of the forests, to a home in the woods, practically, for the forests are all about him. Here he may spend, not only a few hours, but all of his days, under the shade of the trees. From business cares to absolute rest; from worry to peace; from the noise and dust and turmoil, if he wishes it, to a perpetual Sabbath. He may sit in the beautiful park on Hot Springs Mountain and see the world pass beneath him and he simply a looker-on. From feeling himself an outcast, with the mark of Cain on his brow, he here finds congenial spirits who take him out of himself and make him forget that he is afflicted with a loathsome disease. He sees so many getting well around him that hope springs up in his breast and he once more takes up the battle of life with renewed energy. As a result of all these influences his vital processes are quickened, his worry disappears, his appetite and digestion become perfect, his assimilation is improved, and everything with him goes well. From despair there is a rapid change to renewed hope and determination.

Physicians everywhere know how difficult it is to get a walking patient to do anything thoroughly; know how difficult it is to get a man who does not feel very ill to take medicines promptly and regularly; while the same man here will obey his physician absolutely. At home he does not appreciate this necessity, but here, in Hot Springs, he makes a business of getting well and does it. If we tell him to stop using tobacco he will do it. If he has been accustomed to alcoholic drinks he will not touch them. If he has been dissipating by keeping late hours, he will retire at any time we tell him. If the pleasures of the table are a temptation to him, on the order of his physician he will lead an abstemious life. In other words, we have him under perfect control and we may do with him whatever we wish.

Aside from all these hygienic advantages of which we avail ourselves to the utmost, we have unequaled bathing facilities in these far-famed waters. How do they act in this class of patients? We have the patient infected with a specific micro-organism, the bacillus of Lustgarten, the organism recently described by Neusser, diseased white blood-corpuscle of Otis, or whatever one may please to call it. One thing that we do know is that in this patient's blood and tissues there is circulating a pathogenic microbe, with all its consequences. And what are they? Primarily, a disease of the lymphatic system, the whole blood soon becomes impregnated, nutrition is interfered with, the victim becomes hydremic, and the blood, loaded not only with the micro-organisms of disease, but with an excessive amount of the "blood-dust" of Müller; and along with this blood-dust there are toxins which accompany the life-history of all growing bacilli.

Toxins, blood-dust and pathogenic organisms, and, following in their wake, or as a result of their presence, mental depression, worry, indigestion, and malnutrition, each reacting on the other, and there is developed a vicious cycle which will not and cannot be broken at home. All these things break down and cripple those marvelous little friends of ours—the phagocytes, or white blood-corpuscles. They are overwhelmed in their task of eating up or destroying the germs and their toxins, and the result is faulty metabolism and all the ills that flow from this state of things.

While in this condition the patient comes to the Hot Springs and commences the business of getting well. The hygienic treatment above alluded to is supplemented by the baths and drinking of the hot water. The excessive amount of blood-dust is rapidly eliminated, toxins are washed out, and the phagocytes have an opportunity to assert themselves, and a fighting chance with the micro-organisms of the disease. While this is going on the patient receives specific treatment. By this the red corpuscles are increased in numbers and the hemoglobin rapidly rises to normal. Almost before the patient knows it he finds himself gaining in flesh and healthfulness.

We take it that these waters act as a powerful eliminant for dead and effete material, and thus stimulate tissue metabolism wonderfully. The stomach, skin and kidneys are profoundly impressed by its free use, and thus digestion is aided, tissue change promoted, dead material washed out, the toxins, of whatever nature they may be, eliminated, and Nature given a fighting chance with disease germs and their products. After all, there are not many specifics in medicine. Nature has provided the phagocyte, or white blood-corpuscle, for our protection. If this defender of the body is in good fighting trim the invading enemy will be overcome and the toxins they produce in their life-history will be eliminated by the skin and kidneys.

Aside from the specific contagious diseases which afflict humanity, practically all the ills of mature life, and many of those of younger people, are produced by faulty metabolism, defective elimination of tissue waste and toxins, which have

been made by bacteria of various kinds which gain entrance into the economy through the intestinal and respiratory tracts. "The battle of the cells" of Virchow is a reality, we all know to-day, and our bodies are the battle-ground. The invading germs are met at the threshold by the defenders, our good fairies all arrayed in white; not as the fairies of good Queen Mab, clothed in green, but in white—the white corpuscles of the blood, armed not only with this power to attack and digest the invader, but also with the ability to furnish an antitoxin which will neutralize the toxins of bacterial origin. These antitoxins are called alexins, and, together with the germ-destroying power of the white blood-corpuscle, are Nature's provisions for protection against an enemy which has gained an entrance into the blood. This power cannot be properly exercised if the skin, stomach, liver and kidneys are not doing their work in a perfect manner. Failure of eliminating organs to get rid of the results of tissue metabolism clogs the machinery of life, cripples and poisons these little and powerful defenders, and the result is disease in some one of its many forms.

It has been demonstrated by Reiss and others that the red cells are decreased in numbers shortly after the initial lesion is observed, and that this decrease continues until the secondary symptoms appear. The hemoglobin also sinks from the very beginning of the disease.

Konried ascertained that during the first four to seven weeks the red cells remain normal in number, but that the hemoglobin decreased and continued to decline until treatment was begun. In two hundred examinations, Newman and Konried reported that up to the appearance of the secondary symptoms twenty-five to thirty per cent. of hemoglobin was lost, with a considerable decrease in number of the red cells.

Lezius found that the diminution in the number of red cells occurs at the outbreak of the eruptions, and that the hemoglobin may sink as low as twenty-five per cent.

A very remarkable thing occurs with the white cells. Leucocytosis always takes place. Microscopical examination of the blood will show a very large increase of these defenders. There are a great number of lymphocytes present in this class of cases, and many eosinophiles may be found. In this increased leucocytosis Nature's effort to destroy the invading micro-organism is evident. Under appropriate treatment, with the baths an adjuvant to get rid of the *débris*, the toxins are washed out.

Administration of the iodides and mercury is followed by decrease in the white and an increase of the red cells. These remedial agents go to the assistance of the white cells. The germs of disease are destroyed and the leucocytes find themselves out of employment and decrease until they reach the normal.

It has been demonstrated that the exhibition of mercury increases the count of red cells for the first three or four weeks of its use, and that after a time, if it is continued, there is also a loss of both the red corpuscles and the hemoglobin. The same thing is true of the use of the iodides. Hence we find that when these remedies are pushed for too long a time or in too great quantity, the patients lose ground; especially is this true when the elimination of the remedies is not encouraged by the use of baths.

By reason of the very rapid elimination of medicines produced by the drinking of and bathing in these waters, we may give much larger doses of the remedies required in the treatment of disease than is usually tolerated by the patients in their homes. Instead of twenty grains of iodide salts, three times daily, it is a common thing to give fifty to one hundred grains at a dose. When the gummatous infiltration threatens the eye, the hard and soft palate, the brain or spinal cord, we do not hesitate to give one thousand grains a day. Of course, these large doses are exceptional, and are given only when some very urgent demand exists. We have learned that each patient must be a law unto himself—what one man bears with impunity another cannot take; that each man has his dose, beyond which he cannot go. Commencing, then, with fifteen to twenty-grain doses, we push the remedy until the patient suffers from iodism, or until the symptoms for which it is given yield to the remedies, even if it takes one thousand grains a day.

In the same manner we use mercury in such doses as the patient may need, whether that may be one dram of mercurial ointment daily, or four times as much, always bearing in mind the physiological and pathological effect of the remedy on the blood-corpuscles.

We prefer mercurial ointment to any other form of administration. It does not disturb the stomach and bowels, save in exceptional cases; and in these cases the remedy by the mouth would scarcely be tolerated at all.

Under the microscope the blood-dust will be found to have diminished greatly, the red blood-corpuscles increased in numbers, the hemoglobin become normal and the patient well.

This we have seen so often that we can promise a patient absolutely that his syphilide will disappear promptly under the influence of the baths and specific medication in a very short time. How short? Well, for all the secondary eruptions, from ten days to six weeks. His skin will become as it was with Nimrod, white and soft and clear; his spirits will revive; his digestion will be all right, and he will gain from ten to thirty pounds in weight. Can the physician in the ordinary lines and places of practice make good any such promises as these?

218 Central Avenue.

Exposed Others to Small-Pox.—Dr. M. J. Rodermund of Appleton has a theory that smallpox is not contagious. He tried to show the correctness of his theory last week and is said to have deliberately exposed half the town after smearing himself with poisonous pus taken from the face of a patient.

SOME TOPOGRAPHICAL AND CLIMATIC FEATURES OF THE FLORIDA PENINSULA; WITH SPECIAL REFERENCE TO ITS ADAPTIVENESS AS A WINTER HEALTH RESORT.

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THE State of Florida extends from 24° 30′ to 31° N. latitude and from 80° to 87°, 45′ W. longitude. It has a coast line of 472 miles on the Atlantic Ocean and 674 miles on the Gulf of Mexico, and an average breadth of about 90 miles. Topographically the State is often described in encyclopedias and geographical works as being flat and uninteresting, or as made up of a succession of miasmatic swamps, lakes, and savannas. While by no means of a rugged character, the surface is far from being a dead level. It may more properly be described as forming the top of a submarine mountain chain, rising gradually, as it does, from both coasts to an altitude near the center of from 100 to 300 feet. The ledge forming the backbone of the peninsula is composed of the Eocene limestone, known as the Vicksburg. This formation persists from the northern limit of the State to Cape Sable, and forms the bed of all the lakes and rivers except the salt water bodies composing the east coast lagoon, extending from Pablo Beach to Cape Sable. This limestone base persists to the Gulf coast on the west side and outcrops into Tampa Bay. The great coquina ledge of Florida, probably of post-Pliocene origin; extends along the east coast from Pablo Beach to Cape Florida. The interior elevated ridge or backbone traverses the peninsula down to about the 27th parallel of latitude, the apex of the divide being perhaps one-third nearer the Gulf coast than the Atlantic. The surface of the water-shed and its western slope is generally undulating and occasionally hilly, in some sections being much broken by lakes and small elevations known as sand-hills. Along the east coast and in the St. John's River region the character of the surface is usually level. The soil, as a rule, is sandy and very porous in the hilly sections, but firmer and more compact along the level reaches. A striking feature of the surface is the immense tract lying south of Lake Okeechobee, known as the Everglades. This great morass or swamp is 160 miles in length and 60 miles in breadth, its depth varying from one to six feet. During the wet season from June to October it is impassable. The presence of this big marsh, which is always made prominent in works descriptive of Florida, has no doubt acted to the prejudice of the State as a resort for invalids. It should be borne in mind that the Everglades, though very extensive and decidedly unattractive as a near neighbor, are located far down the peninsula, below the 27th parallel and remote from the customary haunts of the tourist and the health-seeker. At some future day the enterprise and ingenuity of man will be turned upon this desolate wilderness and it will be made to blossom as the rose.

The rivers of Florida are numerous and some of them afford excellent facilities for internal navigation. The most important of these is the St. John's which rises in the great southern morass just mentioned and reaches the ocean after a northerly course of more than 300 miles. The river traverses many romantic and picturesque lakes in its route, and with its tributaries affords a navigable stretch of more than 1000 miles. The Florida rivers are supplied both by the numerous lakes and savannas, where rain-water collects, and by subterranean springs, many of which afford immense volumes of water of crystal purity and clearness. The greater part of the State is still covered with vast forests of pine, magnolia, laurel, live- and water-oak, and other valuable timber.

Florida possesses a climate which is properly described as one of the most genial and equable on the continent. Occupying, as it does, a situation between the temperate and tropical regions, it enjoys exemption in a great measure from the frosts and sudden changes of the one, and the continuous, debilitating heat of the other. Owing to the conformation of the State, being an elongated and somewhat narrow peninsula, the climate is materially influenced by the sea-breezes which sweep over the surface from the two vast bodies of salt-water which it divides. It may be characterized as a marine, in contradistinction to a continental climate. Two important climatic features are prominent, viz., pronounced equability and almost uniform mildness. It is questionable whether the proximity of the Gulf Stream to the peninsula modifies the temperature as much as has been supposed. The United States coast surveys have established the fact that the deep Arctic currents in flowing south shoal up on the east coast of the peninsula inside of the Gulf Stream. As a natural result the superjacent atmosphere is deprived of any small modicum of increased temperature gained from the latter current in these latitudes by the time it reaches the coast.

The mean annual temperature varies from 69° F. at Sanford to 68° F. at St. Augustine. For the winter months the temperature ranges from 54.6° F. at Pensacola to 66.5° F. at Jupiter. The average yearly rainfall varies from 53.19 at Pensacola to 57.16 at Cedar Keys, while the mean annual relative humidity ranges from 76 per cent. at Pensacola to 80 per cent. at Cedar Keys. According to General Greeley's estimate, based on ten years of observation, from 1876 to 1886, the absolute humidity for the northern part of the State for the month of January was 3 grains of water per cubic foot of air; for the base of the neck of the peninsula, 4 grains per cubic foot; along the 28th parallel of latitude, 5 grains per cubic foot, and at Key West, 6 grains per cubic foot. The amount of absolute humidity for the entire State for the month of July was 9 grains per cubic foot. It will thus be seen that, while the climate of Florida can by no means be properly characterized as dry, it is not, on the other hand, excessively humid. The annual mean relative humidity of the State of New York is 75 per cent. What may be termed the "dry season" in Florida occurs during the winter, the summer and early

autumn months affording by far the greater amount of precipitation. As a rule the first approach of the dry season is made in October and from the minimum precipitation which takes place in November; there is a partial resumption of rains apparent in midwinter, to be followed by two or three months of diminished rainfall.

According to data furnished to the writer by Dr. Murray W. Seagears of St. Augustine the average monthly precipitation at that point in inches and tenths of inches is as follows: January, 3.0; February, 3.0; March, 2.9; April, 2.0; May, 4.4; June, 4.9; July, 6.0; August, 5.0; September, 7.4; October, 4.1; November, 3.2; and December, 2.5.

The weather, however, cannot be relied upon implicitly. Blodgett pointed out many years ago the great irregularity of the winter rainfall on the peninsula for different years. One season is no reliable guide for another, and we must take the average for a number of years to reach an approximately correct figure. The equability of the Florida winters is occasionally interrupted for a day or two, possibly for several days, by a north or northwest wind of a cold, dry character, known as the anti-cyclone and resulting from abnormal distribution of atmospheric pressure. Its approach is signaled by a drop of from 10° to 30° F. in twenty-four hours. This wind finds its analogues in the *mistral* of the French Riviera, the northeast *gregale* of Malta, the northerly *transmontana* of the Adriatic, and the *bora* of Trieste and Dalmatia. South of the 29th parallel these atmospheric disturbances lose much of their force and are hardly to be regarded as a serious drawback.

Heavy dews are also a prominent feature on clear, still nights, and fogs are not infrequent, especially along the Atlantic coast and St. John's River district. These have been attributed to the level character of the section, to the presence of large bodies of comparatively still fresh water, and to the winds from the Gulf Stream, warmed and vapor-laden, coming in contact with the strip of colder water between the latter and the coast.

Residents of Florida are also at long intervals treated to sudden and unexpected cold snaps which set the weather-prophets in a pother. It is said that during the anti-cyclone of 1835 the temperature at St. Augustine dropped to 7° F. Notable cold waves of late years occurred in 1886 and 1897 when the frost-line was forced many leagues south of its usual habitat, causing wide-spread amazement to the old inhabitants and great injury to the orange industry.

This enumeration quite completes the list of objections to the Florida winter weather. The tourist or health-seeker from the North, in search of sunny skies and a soft, genial atmosphere, will hardly fail to find them here in abundance, and the days when he is kept indoors by atmospheric conditions cut but a small figure in the bright and cheery vista from the late autumn to the early spring. Nor must it be taken for granted that the period of summer is unendurable in the peninsula. Many of the new and attractive towns in the Florida uplands, notably in Orange and adjacent counties, have large numbers of permanent northern residents who have chosen to make their homes here all the year round. The summers are undoubtedly long and warm, but the reports of the weather bureau show that many points along our northern frontier present higher thermometric ranges during July and August than are observed at Winter Park, Ormond, and other localities along the lake plateau. With the Atlantic on the east and the Gulf on the west and south, the temperature of the peninsula is appreciably modified by the seabreezes which, by favoring evaporation, convert much of the sensible into latent heat, producing an undoubted cooling or refrigerating effect and, at the same time, serving to eliminate much of the normal humidity of the air.

Malarial fevers unquestionably prevail in certain marshy districts of the State, and their presence has acted as a detriment to the fair fame of the entire peninsula as a resort for health-seekers. When carefully sifted, however, it will be found that the reports concerning these disorders contain but few grains of actual fact. It would appear that many sections of the State have always been free from this scourge, and in others, where it has been wont to flourish, it is apparently declining, both in frequency and severity, the old-fashioned algid and congestive types having practically disappeared. The writer is informed by Dr. Seagears, of the Alcazar Hotel that the recurrent chills observed among native Floridians about St. Augustine, which are invariably diagnosticated as malarial in character, fail to show the presence of the specific plasmodium on microscopical examination. He states that the topographical and soil conditions about St. Augustine are distinctly antagonistic to the propagation of malaria. The medical statistics of the United States Army show that the ratio of deaths from remittent fever has been less among troops stationed in Florida than in any other section of the country. If the writer may cite his own experience in this connection, he would say that of the not inconsiderable number of his own patients whom he has had occasion to refer to the peninsula during the last fifteen or twenty years not one has ever contracted any form of malarial disorder. The decline of these affections is doubtless due to improved drainage in a few localities, although some physicians attribute it to the increased cultivation of orange-trees. Tomasi Crudeli, in his address before the Copenhagen Medical Congress, pointed out that the cultivation of the orange and other members of the citrus family had apparently been influential in the elimination of malaria in certain districts in Southern Italy and Northern Africa.[1]

The writer is informed by physicians in different sections of the State that diphtheria is practically unknown, while such exanthemata as measles and scarlet fever are exceedingly mild in their manifestations. These statements appear to be con-

[1] According to my friend, Dr. Manges, Italian physicians have long believed in the virtue of lemon juice as an adjuvant to quinine in the treatment of malaria.

firmed by mortality statistics. According to the United States Census returns for 1890, the latest at hand, the annual mortality-rate of the State for all diseases was 10.50 per 1000 of population. It may be interesting to notice in this connection the death-rate in several other States. As computed from the National Census Report of 1890 they are as follows: California, 14.65 per 1000 of inhabitants; Colorado, 13.23; Illinois, 13.88; Kentucky, 12.85; Maine, 15.19; Massachusetts, 20.15; Minnesota, 11.89; New Hampshire, 18.79; New Mexico, 16.24; New York, 20.53; North Carolina, 11.23; Pennsylvania, 13.98; Tennessee, 13.49; Texas, 11.84; Virginia, 14.03; and Wisconsin, 11.06 per 1000 of population.

Perhaps the most important consideration in this connection relates to the advantages of the climate of Florida as a resort for persons threatened with, or affected by pulmonary tuberculosis. Is the peninsula a proper region to which to refer such persons for the winter months? Let us again consult the mortality statistics of the National Census Bureau, those of 1890 being again chosen as the latest accessible. The death-rate from consumption for that year for the States above cited was as follows: California, 2.39 per 1000 of population; Colorado, 1.18; Illinois, 1.49; Kentucky, 1.90; Maine, 2.23; Massachusetts, 2.67; Minnesota, 1.17; New Hampshire, 1.93; New Mexico, 0.63; New York, 2.47; Pennsylvania, 1.46; Tennessee, 2.06; Texas, 0.92; Virginia, 1.84; and Wisconsin, 1.19. The phthisical death-rate for Florida was 0.96 per 1000 of population, or less than that of any other State excepting Texas and New Mexico and several of the new and thinly-settled States of the far Northwest. It will thus be seen that the conditions prevailing on the peninsula are not favorable to the development and spread of consumption. Deducting the small, but constant number of invalids from other States who die there every year, it is altogether probable that Florida would show a smaller mortality-rate from this cause than any of her sisters in the Union.

In his work on bacillary phthisis, Germain Sée divides the climates suitable for the treatment of consumption into three great classes, viz., (1) warm maritime climates; (2) high altitude climates; and (3) the climate of warm, low countries not maritime. He regards the first two as including all that is essential in the climatic treatment of phthisis. Without in any way decrying the value of certain elevated regions in consumption, it is the writer's opinion that the conditions in Florida embody all the advantages of warm maritime climates. As before mentioned these consist chiefly of mildness and steadiness, to which may be added an abundance of light and ozone and, in most localities, freedom from dust. It is further possible, as Germain Sée suggests, that the increased oxygen of low levels is unfavorable to the biological necessities of the bacillus and tends to abridge its activity.

According to Dr. J. C. Wilson, of Philadelphia, the peninsula presents four distinct strips of territory which differ from each other quite materially, climatically speaking. They are as follows: (1) The Atlantic seaboard; (2) the St. John's River region; (3) the elevated pine-lands forming the water-shed of the State, and (4) the Gulf coast. He favors the pine regions of the interior and the Gulf coast, as being comparatively free from the sudden changes of the east coast and from the enervating influences and possibilities of malaria of the St. John's River resorts.

After much careful study of this subject the present writer is of the opinion that the climatic variations in different sections of Florida are determined, not by meridians of longitude, but by parallels of latitude. Traversing the peninsula from east to west on any given line in what may be termed the health-resort belt between the 27th and 31st parallels, one finds but a slight departure from the general characteristics above outlined. There are, to be sure, a few malarial spots of which to be wary, and some resorts are undoubtedly much better off in the way of hotels, scenic attractions, etc., than others. There is, as Keating points out, no well-defined frost-line, but the 29th parallel marks as nearly as possible the boundary between the region of damaging frosts and that where frosts are too light to injure orange-, lemon- or lime-trees.

A most important consideration for the medical practitioner relates to the class of cases to be referred to Florida for climatic treatment. We can never predict with positiveness how any individual case will progress after the patient reaches the peninsula. Many persons go there every year on their own responsibility and often to their own detriment and to that of the standing of the region as a health resort. In the absence of positive statistical evidence bearing upon the subject of climatotherapy, we are obliged to depend to a great extent upon the general observations of physicians and of their patients. It is the writer's opinion, based upon experience gleaned from his own patients and those of other physicians, as well as from a careful study of the literature relating to the subject, that the following classes of persons may properly be referred to Florida for the winter months:

1. Cases of recurring bronchitis or winter cough. These patients enjoy fairly good health during the summer months, but with the advent of the first raw days of the Fall they begin to have bronchial irritation, attended as a rule by a dry, irritable cough and occasional paroxysms of wheezing and dyspnea. These cases are not phthisical, but they are liable to develop more or less pulmonary emphysema with the progress of two or three winters, to the permanent impairment of their respiratory capacity. They are but slightly amenable to drug treatment. A sojourn of two or three months in Florida during the depth of the northern winter usually results in material improvement, often in a permanent removal of the *materies morbi*.

2. A large and important class of cases, hereditary or otherwise, in which there is reason to ap-

prehend the development of tuberculosis, even though no actual signs of the disease have set in.

3. A majority of cases of early phthisis prior to the formation of cavities. Patients showing great debility or a severe degree of anemia should not be sent to a southern climate, nor should those in whom acute manifestations are present. As in other localities nearer home, cases in which the well-known symptoms of pulmonary tuberculosis have become prominent are not welcomed everywhere on the peninsula, but the writer knows of no patient who has failed to find comfortable quarters.

4. Cases of so-called fibrous phthisis or chronic interstitial pneumonia. This form of pulmonary trouble progresses very slowly and is liable to extend over a long period of years. It is not cured by the climate of Florida, but almost without exception patients receive great benefit from a sojourn of several months in that region.

5. There is a very large valetudinarian class, composed of old rheumatics, victims of subacute or chronic gout, asthmatics, and intractable cases of chronic rhinitis, pharyngitis, laryngitis, lumbago, neurasthenia, general debility, etc., who are vastly improved by a season amid the sunshine and flowers of the beautiful peninsula.

During recent years the hand of man has done much to improve and develop the great natural resources of Florida. Magnificent vestibuled express trains and safe and elegant steamers convey the northern visitor from New York to the peninsula in from thirty hours to three days. A network of well-constructed and well-managed railroads within the State limits have made all desirable sections easily accessible and have led to the development of hitherto relatively-unknown and unfrequented districts. The visitor will find a chain of palatial hotels along both the Atlantic and Gulf seaboards, while in all sections of the State numerous excellent smaller hotels and boarding-houses are at hand for those who wish to live less expensively. In many localities golfing may be indulged in, while cycling is practicable almost everywhere. Boating, bathing, fishing and shooting also add their attractions in many quarters of the peninsula. Some detailed facts relating to individual localities in Florida will be given in a subsequent article.

In the foregoing contribution the author has been aided by the writings of Blodgette, Crudeli, Eager, Keating, Sée, Solly, Wall and Wilson, and by personal communications from physicians in the State of Florida.

783 Madison Avenue.

THE CLIMATOLOGY OF NEURASTHENIA.[1]

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A MORE accurate knowledge than at present exists of the effect of climate upon the health of people in general, such a knowledge as may be gained from a conscientious study of the statistics of health of a locality, of death-rate, longevity, physique, capacity to rear a generous progeny, etc., is extremely desirable. Such a knowledge would enable the physician to substitute for his present vague, "Go west," or "Be off to the woods," a definite statement of the meteorological conditions required by the case and of the existence of those conditions at some given spot, thus sending his patient off with a cheering and authoritative assurance of benefit to be confirmed by subsequent events, instead of submitting him, in a state of mental doubt and confusion, to climatic conditions which may after all be unsuited to his case and may therefore bring him back with bodily health unimproved, spirits depressed and pocket-book depleted. As a slight contribution toward the desired result, I purpose in this paper to discuss the climatic guarding of a special disease, neurasthenia.

In a lecture given before the Alumnæ of Nurses of the Presbyterian Hospital of Philadelphia, entitled "The Nurse in Travel, etc."[2] I endeavored to point out localities desirable to visit in moving about with a nervous invalid or convalescent, and the information conveyed in that lecture, although of a general character has proved of practical advantage to several members of the class addressed.

I shall present to-day more particularly data gained largely from personal observation in this disease. In the first place, I wish it to be understood that I consider neurasthenia essentially a nutritional malady of the central nervous system and believe that, while for successful treatment of it we must look back to the heredity, to both predisposing and exciting causes, which we need not rehearse here, we must seek in the therapeusis to eliminate *all* etiological factors. After all this very necessary detail is dealt with carefully, the treatment of the serious disorder in question must be put upon a nutritional basis. A study of the uric-acid elimination[3] by the kidneys extending over a half dozen years proves this basis beyond doubt to my mind.

The diagnosis must be made between hysteria *per se* and neurasthenia or the latter with a hysterical complication. It must be conceded that the hybrid case is more difficult to direct for the recovery of the patient than is any other neural disease. In well-established neurasthenia *per se* the partial or complete rest-cure alone will win out promptly. Upon how much of hysteria there is in the case and upon the physical condition of the patient should depend resort to other therapeutic measures, suggestion paramount among them.

It is in dealing with convalescents from neurasthenia, with incipient cases, or with those in danger of a recurrence, that the climatology of neurasthenia is especially important.

To speak generally, there are two extremes to be avoided by the neurasthenic invalid, namely,

[1] Read at the fiftieth annual meeting of the Medical Society of the State of Pennsylvania, Wilkes-Barre, Sept. 30, 1900.

[2] Trained Nurse and Hospital Review, April, 1899.

[3] American Journal of Insanity, Vol. LVII., No. 1, 1900. "Further Laboratory Studies on Uric Acid in Neurasthenia and on Autointoxication in Nervous Disease."

a low, windy, treeless country and one characterized by constantly quiet atmosphere, high altitude (above 2000 feet), with low atmospheric pressure. An illustration of the former condition is found at Portland, Oregon, where I found neurasthenia very prevalent. In the higher parts of Southern California and New Mexico, on the other hand, the opposite extreme exists, and sufferers from "nervousness" frequently have to leave the country for a time in order to obtain relief. One of my own patients, a woman of culture and of strong physique, but neurasthenic from prolonged nursing of a case of phthisis in her husband, suffered constant relapses until she left California, whither she had gone for the sake of her husband's health. An outing at Buzzard's Bay, Mass., last summer, has quite restored her to health. The injunction I make in her case for remaining nervously well, is to sell out her ranch in the West and come to a lower country of more flora, of gentler breezes carrying a semisaturation of salt air so stimulating to metabolism and nourishment of the central nervous system.

The suitability of any given district, whether furnishing sea or mountain air, for the treatment of nervous exhaustion states, depends then upon altitude, that is, barometric pressure, upon the character, temperature and evenness of prevailing winds, upon the nature of the subsoil, gravelly loam being most desirable, upon abundance of sunshine, and, finally, in a lesser but still important degree, upon idiosyncrasy.

Boston is not a suitable locality for neurasthenics, and yet I know a neurasthenic man who was made worse by going from there to the Adirondacks at an altitude of 2000 feet in a very damp part of that wilderness. He was advised by me to seek the "mean" and recovered. Another man, an overworked publisher of New York, aged fifty-two years, having sought health in many parts of the country, went into camp in the Adirondacks where I saw him in September, 1898. The camp was located at an altitude of 1500 feet on a beautiful pond, surrounded by the second growth of trees and much bush which latter held the heavy dews until late in the morning. In all other respects this camp was ideal for a summer outing; but it was bad for a neurasthenic for the reasons already given. At the end of ten days, this man began to have "mental restlessness"; the pressure in his head "grew alarming to him"; he could stand no exertion whatever. He was not hysterical. Palpitation of the heart soon followed, with, at the end of a fortnight, well-established and persistent insomnia. I advised his going down to well-protected Watch Hill, Rhode Island. Upon doing so he reported immediate improvement and since then has gone to this delightful coast line to the recovery of full health.

With the lowered barometric pressure at Anaconda, Montana (altitude 5000 ft.), Dr. James F. Spillman of that place informs me that there is prevalent much neurasthenia, and that general nervousness complicates many diseases he has to treat.

In neurasthenia, localities where heavy storms are prevalent are to be avoided, if possible. Such storms in the temperate zone of the United States are, as a rule, due to the movement of northerly winds from the lake region overrunning the Hudson valley toward the Atlantic seaboard at some particular locality, as in the very severe storm we experienced on August 3d last, and which spread from Maine to Virginia. It is said that thunder storms are unknown at Bath, Georgia. Further study of the effect of such a locality upon neurasthenics should be made.

The Maine country about Rangeley Lakes is almost ideal for neurasthenic patients, having an altitude of 600 to 1000 feet, with a rare combination of sea-(salt-) and pine-(ozone-) laden atmosphere conjoined with plenty of sunshine, all mildly stimulating meteorological conditions. Next in order in America I should place the inland country of New Brunswick and of Nova Scotia, away from the fogs of the coast. Third in order comes that delightful, gravelly and stony country in the United States and Canada, the Great Lake region of Ontario, Wisconsin and Michigan, stretching east to the beautiful group of the Muskoka Lakes and about Lakes Simcoe and Nippissing.

I give herewith a table of altitudes of some places near at hand where it is desirable to send the neurasthenic convalescent.

TABLE OF ALTITUDES.

Locality.	Altitude.
1. Blue Mountain Lake, Adirondacks	2000 feet
2. Lake Massawepie, Adirondacks	1400 "
3. Schroon Lake, Adirondacks	830 "
4. Lake Chautauqua, New York	2191 "
5. Lake Canandaigua, New York	688 "
6. Great Lakes	500 to 680 "
7. Lake George	310 "
8. District about Rangeley Lakes, Maine	800 to 1000 "
9. Lake Hopatcong, New Jersey	926 "
10. Harvey's Lake, Pennsylvania (the largest body of fresh water in that State)	1250 "

I close with a brief summary of the conclusions reached in this paper.

It is almost axiomatic that an altitude of over 2000 feet is unsuitable for the neurasthenically-disposed or convalescent patient. Any very "stimulating" climate should be avoided. Other conditions to be avoided are as follows: Districts menaced by high winds and frequent fogs; cloudy, saturated atmospheres with but slight movements of air-currents; low country (sea level) with continuous, non-varying, although moderate heat, as where the effects of the Gulf Stream is strongly felt. Thus the Bermuda Islands and Florida are enervating localities.

Ideal conditions for the neurasthenic include sea-air in a well-wooded country, far enough from the coast to avoid its fogs. A sea-voyage is, as a rule, an excellent preliminary to other climatic measures. Provided the voyage is not stormy it acts both psychically and physically in soothing the nervous system.

In order to obtain the full benefit of correct climatic conditions the patient must have good food. Without this important adjunct the desirable climatic change may be entirely defeated in its effect on the patient.

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THE TONSILS AS PORTALS OF INFECTION.*

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WALDEYER'S tonsilar ring consists of (1) the pharyngeal or Luschka's tonsil, (2) the tubal tonsils or cushions of the Eustachian tube, (3) the faucial or true tonsil, and (4) the glossic tonsil. These structures belong to the lymphatic apparatus and have been compared to Peyer's patches in the intestinal tract. The faucial tonsils are oval-shaped nodes the size of hazel-nuts. In health they should be barely seen. Each tonsil is imbedded in faucial peritonsillar tissue. On the surface are from eight to eighteen openings, the entrance of crypts (lacunar spaces). The crypts are lined with mucous membrane and are apt to become filled with a thick, yellowish secretion (fat molecules, loosened epithelium, lymph-corpuscles, granular matter, cholesterin crystals, etc.).

The pharyngeal tonsils differ from the tonsillar tissue in that they have no crypts, but an abundance of irregular spaces between them in which dirt and discharges are held (Dawbarn).[1]

The tonsils have a very large blood-supply and the lymph-sinuses communicate freely with the lymphatics of the mouth, pharynx and deep cervical lymph-nodes (Ashby & Wright).[2]

One of the functions of the tonsils is the formation of leucocytes, which, according to Stöhr[3], find their way into the salivary secretion by an amœboid movement. Kingston Fox[4] says that the tonsils have an absorbing function, *i. e.*, the absorption of a superabundance of saliva. It is also claimed that they produce a secretion which lubricates the food, but, containing no mucous glands, they do not secrete in the sense of glandular secretion, and Hodenpyl[5] relegates this secretory function to the adjacent tissue and not to the tonsil itself.

Killian[6] believes that the contained leucocytes have the power to destroy micro-organisms. Labbe[7] also thinks that the follicles by an extension of the epithelial surfaces are a means of defence against bacterial infection, but Goodale[8] has lately claimed that the leucocytes present are of the mononuclear variety. The lymphocytes are not phagocytes and cannot therefore be regarded in this light. Goodale also claims that absorption exists in the tonsil and takes place through the mucosa of the crypts, whereas Hodenpyl in a series of experiments maintains that the epithelium of the crypts prevents absorption, but that substances finding their way beneath the epithelium may be taken up rapidly by the lymphatics, and this he explains frequently to be the case on account of the very thin layers of epithelium and its constant rarefaction. He also showed that soluble and insoluble materials in the substance of the tonsil remain in the tissue or are carried by the lymphatics to the other parts of the body.

As to the capability of the absorption of micro-organisms by the tonsil, Ribbert[9] found that the bacillus of diphtheria in rabbits is not absorbed by the buccal mucous membrane except in the tonsils in which the epithelium is desquamated. Schlenker,[10] having found cases of tuberculosis of cervical nodes in which the tonsils either were or were not diseased, states that in the latter case the tubercle bacilli must have wandered through the tonsil. Buschke[11] also concludes that the tonsils are portals for pus-producing organisms. They do not enter the system without affecting the tonsils, be it ever so lightly, so that Pluder[12] contends that tonsillar protection to the invasion of disease is very small, as the tonsils are frequently diseased and hence portals for the entrance of bacteria. Schech[13] also makes the statement that in the adult the tonsil is seldom normal.

From the foregoing remarks it is seen that the function of the healthy tonsil is but little understood. Certain it is that, being of the lymphatic system, they have to do with the formation of leucocytes of a mononuclear variety and that these leucocytes have little phagocytic action.

The tonsils may protect the system by a filtration of micro-organisms and an attenuation of their virulence, thereby giving a certain amount of immunity in health. They are, however, very susceptible to the invasion of bacteria and to infection. Because of their position the various forms of aërial poisons are prone to be aspirated and to lodge here; food substances, with their poisons, bacteria, etc., may also find lodgment coming in contact during the deglutition act. The tonsils afford places of lodgment because of their irregularity of contour, the presence of lacunar spaces, the rarefaction of the epithelium lining the crypts (Hodenpyl) and the exudation of the epithelium which leave places of denudation and afford the *locus minoris resistentiae* to the various organisms. The tonsils are therefore constantly exposed to pathogenic organisms contained in liquid, air and food. They are also exposed to the bacteria constantly to be found in the nasal and buccal cavities; as occurring in the nose, Eisenberg[14] mentions staphylococcus pyogenes aureus, streptococcus erysipelatus, bacillus foetidus ozaenæ, Friedlander's pneumobacillus, rhinoscleroma bacillus, bacillus mallei and bacillus smaragdinus foetidus; the same author mentions in buccal secretion pyogenic bacteria, diplococcus pneumoniæ, diphtheria bacillus, tubercle bacillus, and many pyogenic organisms in and about the teeth, as described by Miller, such as bacterium gingivæ pyogenes, bacillus dentalis viridans, also fungi-like actinomycosis and aspergillus fumigatus. These bacteria require heat, moisture and a good soil for their growth. They obtain the two former conditions and so far as soil or proper media is concerned, it requires but a loss in the immunity of the individual or host to make active the pathogenic organisms always present and to induce infection.

*Read before the New York State Medical Association, October 17, 1900, and before the Buffalo Academy of Medicine, October 22, 1900.

Having shown that the tonsils are easily accessible to micro-organisms and that they are constantly exposed to their action, it requires the clinical proof that such takes place.

The tonsil, especially the faucial tonsil, often becomes inflamed through the agent of pyogenic organisms, lodging in the lacunar spaces. The epithelium of the mucosa, because of the engorgement of the vessels, is deprived of its nutrition and exposed to the poisonous substances produced by the organisms; it becomes swollen, clouded and dies; in other words, is converted into pus. As a consequence of this metabolic change and the secretion of the bacteria, toxic substances are formed which, being absorbed, produce constitutional symptoms, namely, malaise, headache, bone-ache, chills, elevation of temperature, bounding and frequent pulse, etc.

Among the organisms demonstrated in the lacunæ in tonsillitis are the streptococci, staphylococci albus and aureus, Fraenkel's pneumococcus and Friedlander's pneumobacillus.

As to the predisposition for an attack of tonsillitis may be mentioned the relation existing between the hyperplasia of either the lingual or pharyngeal tonsil in young children. The adenoids through their obstruction induce mouth-breathing and a lowering of the vital resistance, rendering an assault of bacteria the more successful. There is a constant aspiration of pathogenic bacteria to the faucial tonsil and the individual is more susceptible because of a lowering of vital resistance.

One attack of tonsillitis predisposes to another and, as a result, the crypts are deeper, the fibrous tissue and lymphoid tissue are increased, and the vessel-walls are sclerosed. Depending on the increase of fibrous tissue will depend whether or not the hypertrophied tonsil is hard or soft. It is this tonsil which is *par excellence* the principal portal for infection for here we have lost in the normal function, and the parts are dry, the lacunar spaces widely open and filled with bacteria, and the antigermicidal secretion of the lymphoid cells, if any, is *nil*. But it is nevertheless not my intention to state this without some qualification, for in many cases of infection via the tonsils, they are apparently little affected.

Jessen[15] emphasizes the fact that a tonsil with normal appearance may contain foci of suppuration. Many cases are reported which show severe infection following an attack of tonsillitis. This infection may be classified into (1) a toxemia, as diphtheria; (2) a septicemia, and (3) a septicopyemia. The involvement of the faucial tonsil in a great majority of cases in diphtheria and its toxic effects (paralysis of muscles of deglutition and heart) need not be emphasized in this paper.

If the organisms producing a tonsillitis are pyogenic and enter the tissue a simple lacunar tonsillitis becomes septic by the formation of a tonsillar abscess or the adjacent peritonsillar tissue is affected by contiguity with the formation of a peritonsillar abscess, Ludwig's angina or a retropharyngeal abscess. In this process the cervical lymph-nodes are also affected and many constitutional complications, pyemic in character, may follow which are severe and often fatal.

Spaet[16] describes two fatal cases of general septicopyemia in which he thinks the port of entrance to have been a catarrhal affection of the tonsil. Treitel[17] speaks of the importance of tonsillar abscess as a port of entry of general sepsis. Jessen[18] reports four very interesting cases of sepsis following tonsillitis. (1) Man with exudation on the tonsils followed by constitutional symptoms, pain in extremities, stupor followed by an erythematous eruption, the erythema and pains in joints disappearing in eight days with an irregular fever-curve. Pure cultures of staphylococci and streptococci were obtained from the tonsils, but none in the blood. (2) Woman who came to hospital in a comatose condition and died from uremic convulsions. The autopsy showed the superficial tonsil smooth, but on section many abscesses were found. The kidneys were filled with hemorrhagic areas and abscesses. (3) Chlorotic girl with angina of left tonsil from which pure culture of streptococci were obtained. The angina was followed in twelve days by a wandering pneumonia (only streptococci in sputum, no pneumococci or influenza bacilli), then by a pericarditis, pleuritis and nephritic irritation evidenced by the presence of albumin and casts in the urine. (4) Girl with angina followed by a pericarditis, double pneumonia and general sepsis. Author recovered post-mortem the same organisms obtained in culture from the tonsil in all the organs. In this case the tonsil superficially showed little or nothing, but on section pus was found.

Du Mesnil de Rochemont[19] describes an epidemic of angina in a hospital in Altona, thereby demonstrating the contagiousness of ordinary angina. There were 18 cases out of 67 patients, or 23 per cent., affected. In the following two months, 19 were added. The angina varied from a catarrhal-follicular form to a gangrenous exudate and swelling of the peritonsillar tissue. Streptococci and staphylococci were found in culture. As complications the author noted acute articular rheumatism three times and once each nephritis, pericarditis, endocarditis and myocardial weakness. Dr. William Bergtold, of Denver, Colorado, in a personal communication, has described to me an epidemic of sore throats occurring in Denver in November, 1898. He believes there must have been a very large number of cases (20,000). The disease was very contagious. There was only a slight sore throat, the pharynx and tonsil had a purplish-blue look, almost edematous, with, in some cases, an occasional patch of membrane. The symptoms were much those of influenza. Dr. Bergtold in the cases examined by him obtained streptococci. In one case observed by him (Dr. Joslyn) there were two relapses, in the last of which the patient developed a bronchopneumonia, pericarditis, ulcerative endocarditis and died. He believes there were many other cases of sepsis due to the angina which, unfortunately, are not reported.

Hiddeaus[19] reports a case of tonsillitis due to staphylococci pyogenes aureus followed by a pleuritis in the exudate of which he found the same organisms. Hanot[20] also reports pleuritis following streptococci angina, as does Richardière.[21] Heinze[22] in 1261 cases of angina examined by him at the Leipzig clinic found 38 cases of nephritis, some of which were protracted and one of which died.

Fraenkel[23] records ten cases of leucemia, the course of each seeming to point to an infection and the early involvement of the cervical lymphatics suggesting an invasion from the pharynx or tonsils. F. G. Wood[24] in a report of cases of Hodgkin's disease, states that in one case observed by him the infective agent gained entrance through the tonsil.

Thomas[25] reports the case of a child, seventeen months of age, attacked with tonsillitis sinistra, swelling of cervical and submaxillary glands. On the third day otitis media of left side developed, then retropharyngeal abscess of right side with pharyngitis and acute suppuration of nares and nasopharynx, then a erythema scarlatinoid, enteritis, pneumonic infarcts. On the forty-first day of disease the child died of meningitis. Cultures from the pus of the ear showed streptococci and staphylococci pyogenes aureus. The author regarded the disease as a streptococcus infection.

Simonini[26] records an epidemic of five cases of infantile paralysis; as to its origin he believes it related to rheumatism and hence to tonsillitis. Packard[27] says that angina may be the cause of many unexplained systemic cord diseases. K. Dehio[28] reports a septic maculopapular erythema following follicular tonsillitis.

Through the courtesy of Dr. Grover Wende I saw a case of giant urticaria following an ulcerative tonsillitis in both tonsils. The case simulated somewhat scarlatina with angina. Cultures of streptococci were obtained from the tonsils. This case rather conforms to the later theory of urticaria which speaks of it as due to toxic substances in the blood. Cases of urticaria following tonsillitis are described by Rosenthal,[29] Boeck,[30] and others. Bull[31] described purpura following tonsillitis. F. A. Packard[32] reported five cases of endocarditis which were preceded by an attack of tonsillitis, in three of which it was definitely known that the heart was normal before the attack of angina. In the other two cases the previous condition of the heart was not known from personal observation, but there was nothing in the past history referable to the heart.

Emil Mayer[33] also relates the case of a man in whom the diagnosis was made of an endocarditis following tonsillar infection. Endocarditis frequently follows many of the infections and contagious diseases. It is an early complication of sepsis in which it may occur as a simple or ulcerative form. It follows or accompanies acute articular rheumatism in 60 to 70 per cent. of cases.

It has been shown in cases cited above that sepsis may be produced through the tonsil. So far as concerns the exanthemata, it is well known that a majority of them have an early angina, witness the severe throat lesions in scarlet fever, so difficult to differentiate from a true diphtheria. Abbott[34] although he says it is not generally accepted, states "that the clinical manifestations of the disease (scarlet fever), as well as the anatomical lesions, except those in the throat, are the result of the absorption of toxins, produced by the streptococci located in the diseased tonsils."

Class[35] described a diplococcus scarlatinæ as a cause of scarlet fever and gives a synopsis of 300 cases, showing the presence of this organism in the throats; Gradwohl[36] in seven cases confirms Class's findings and speaks of the contagiousness of inoculated mice to others not so inoculated in the same cage. Baginsky and Sommerfeld[37] from a study of 42 cases of scarlet fever obtained, in the angina, pure cultures of streptococci sometimes accompanied by other cocci and in all fatal cases (42) examined by them the organisms were found in the blood and bone marrow, from which they conclude that the streptococcus is constant in scarlet fever.

Class,[38] in a later contribution, differs from the above-named authors in the morphology of the organism, claiming that it is a diplococcus and not a streptococcus. He speaks for priority in discovering it and shows that the organism is constantly present in scarlet fever, that it is a pathological organism for mice, swine and guinea-pigs, that scarlet fever can be produced in the white swine by the diplococcus, that the pathological changes in the organs caused by the diplococcus scarlatinæ resemble those of scarlet fever, that the disease produced is of a contagious character, that the influence of the blood of a scarlet-fever patient on plate-culture inhibited its growth, and that the organism was found in the throat secretions of scarlet-fever patients. The author's claims accord to Koch's law, but further cumulative and confirmatory evidence can only give to this organism its place as the specific organism of this disease. One proof of the tonsillar affection in this disease, as in diphtheria, is the common early involvement of the cervical lymph-nodes.

Trousseau[39] in his writings speaks of rheumatism as being ushered in by a sore throat. Buss[40] emphasizes the relation between angina and acute articular rheumatism. The examinations showed the same micro-organisms for both, namely, pyogenic cocci, and he concludes that in many cases the port of entry for rheumatism is in the tonsils. Sterling[41] also reports five cases of follicular or catarrhal tonsillitis immediately followed by acute articular rheumatism and draws the same conclusions as does Buss.

G. Bloch[42] discusses the etiology of rheumatism from a clinical standpoint, *i. e.*, the relation existing between angina and rheumatism. It may follow any form of angina from a light catarrhal to a deeply lacunar, from a herpetic tonsillitis to a peritonsillar abscess. From 20 to 80 per cent. of rheumatic cases follow an angina, the disease of the tonsil giving a direct cause for a mild attenuated pyemia. Sahli obtained the staphylococcus

pyogenes citreus from the blood, synovial membrane of joints and exudate of endo- and pericarditis in rheumatism. Singer reports having found the staphylococcus pyogenes albus in urine and blood, and later the staphylococci and streptococci. This author[43] also speaks of the close relationship between acute articular rheumatism and osteomyelitis and looks upon the latter as a peculiar form of pyemia, in youthful individuals staphylococcus occurring in the form of osteomyelitis, in older individuals as acute articular rheumatism.

Bertram Abraham[44] found in the exudation of so-called sore throats a staphylococcus and streptococcus. These germs may also be found in blood and urine. The presence of the germs in the joint effusion seems not only to point to their being the actual cause of the disease, but to the strong probability that they enter the system by way of the tonsil. Achalme[45] described a bacillus found in the blood in rheumatism which is anaerobic and whose growth is facilitated by lactic acid and prevented by salicylates.

J. Thiroloix,[46] in a case of acute articular rheumatism complicated with pericarditis, double pleuritis and pulmonary congestion, derived from the pleural exudate and venous blood a diplococcus and bacilli arranged in chains with four to twelve flagellæ. In animals inoculated with the bacillus the author could induce similar pathological changes, as in acute articular rheumatism, with the exception of changes in the joints.

In the discussion on acute articular rheumatism at the last meeting of the American Medical Association, Packard, Musser, Anders, Stockton and Favill regarded acute articular rheumatism as an infectious disease. As to the specific organism, if any one species of organism may be mentioned, further investigation will have to be made. One thing is certain—that the port of entry to the variety of organisms having to do etiologically in a majority of cases of acute articular rheumatism is the tonsillar tissue. Packard,[27] however, quotes several authors showing beside the tonsils the port of entry of germs inducing acute articular rheumatism to have been phlegmon, otitis media, dysentery, bronchiectasis, gum-boil, vaccination, etc.

There is a close relation existing between tonsillitic rheumatism, endocarditis and chorea. MacLagan[47] states that rheumatism is essentially a disease of the motor apparatus and that chorea is a disease of the motor centers. Chorea affects those having a history of present or prior rheumatic attack with or without a heart affection and there are cases, as, for instance, those following shock in which there is a family history of rheumatism.

Bertram Abraham found in 243 cases of chorea that 53.4 had a family history of sore throat.

Collins and Abrahamson,[48] in a series of one hundred cases examined, state their conviction of a definite relation between chorea and rheumatism, but do not believe in the infectious theory, claiming that the recurrences and relapses speak against it; but Triboulet,[49] in 1892, described a coccus obtained from the blood in canine chorea and later found cocci in the blood of a case suffering from chorea and cerebral rheumatism, so Mircoli[50] believes chorea rheumatica to be an infectious process allied to several forms of bacteria of which the staphylococci are the more common, whereas Guiderossi and Genzetti[51] show that staphylococci may be in the circulation in Sydenham's chorea without attributing to them the cause of the nervous disease. They regard the presence of the organisms as a secondary infection and do not believe them to be a primary cause.

Joseph H. Abraham[52] reports a case of tonsillitis followed by endocarditis, articular symptoms and chorea, and Packard also reports cases of chorea following tonsillitis.

I recall the following case: L. W., aged thirteen years, schoolgirl. One sister died of dropsy, mother is rheumatic (I have since attended her for an attack of acute articular rheumatism); had diseases of childhood; one year ago was sick seven weeks with a severe attack of acute articular rheumatism, which was followed by choreic movements and heart trouble. Patient does not learn well at school. Has lost weight, has no appetite, complains of shortness of breath on exertion. Has chilly sensations, bowels irregular and complains of sore throat. The girl is anemic, tongue coated; she is a mouth-breather. On pharyngeal examination I find both tonsils markedly hypertrophied and the lacunar spaces open. Slight choreic movements are noted. Lungs negative; heart gives a soft systolic bruit transmitted to the axilla.

Because of the previous family history and condition of the tonsils, I advised their removal, fearing another attack of rheumatism. The patient took it under consideration, but in three days I was called to her home. The dwelling was old and the floor of the bedroom was lower than the ground outside. The floor was cold and damp as there was no cellar. The patient was in bed and appeared to be in great pain and distress. Her temperature was 102.4° F., pulse 110, respiration 32; anemia marked; tongue coated, breathing labored. The heart sound gave the systolic bruit at apex and in addition hemic bruits at the base. Lungs negative. There was a polyarthritis involving the phalanges and metacarpal articulations of the left hand, wrist, and elbow, and also both feet and ankles. There was redness, heat and great pain rendering examination of the patient difficult.

The patient was sent to the General Hospital, where, through the courtesy of Dr. Stockton I further observed the case. Under large doses of sodium salicylate, one to two grams, local applications of heat, and iron and strychnine, the patient soon improved. The heart lesions and some choreic movements still remained when she was discharged in March, 1900. The patient again came to my office in September, 1900, complaining of sore throat, headache and severe pains in the extremities. I removed both tonsils, and since then she has been doing well. The heart lesion

and slight choreic movements persist. Histological examination of the tonsils removed showed an exudation and denudation in place of the epithelium lining the crypts with a great increase both in the lymphoid and fibrous tissue.

The lesions of typhoid fever are usually located in Peyer's patches and the solitary follicles of the intestinal tract, but Banti,[53] Vaillard,[54] Karlinski,[55] Vincent,[56] Guarmieri,[57] Kühnau,[58] Flexner & Harris,[59] Cheadle,[60] Chiari and Krauss,[61] Lartigau,[62] Ophills,[63] McPhedran,[64] and others, have reported true cases of typhoid fever in which no intestinal lesions were discovered postmortem.

Capillari[65] reports five cases of typhoid fever in an epidemic in which the disease set in by a tonsillar growth. He gives similar observations by Coradischi and finds a like infection for tonsils and Peyer's patches as not unlikely on account of the similarity of structure in the tissues. He quotes Lucatello who found bacillus of typhoid fever in laryngitis.

In this connection may be mentioned a case reported to me by Dr. Allen A. Jones. The patient, a girl, aged twenty years, went to a trolley party and on the following day complained of a sore throat. Her temperature was 105.8° F. and there were symptoms of fever. Examination of throat showed on the left tonsil an acute follicular tonsillitis; cultures showed staphylococci in pure culture.

On the third day the soft palate was edematous, the right tonsil showed follicular tonsillitis; temperature 104° F. Despite cold packs and antipyretics the temperature for five days was never below 103.5° F. On the fifth day delirium was present and a Widal examination was negative; two days later it was positive.

The blood showed a leucopenia; erythrocytes 4,700,000, leucocytes 6800; hemoglobin 80 per cent.

Was this a mixed infection through the tonsil or did the pyogenic infection lower the resistance to a secondary typhoidal infection?

In view of the fact it leads necessarily to the suggestion that in some few cases the portal of entry for the Eberth bacillus may be the tonsillar tissue.

It is worthy of notice that in the oropharyngeal cavity, next to the lips and tongue, the tonsils are seats of initial lesions of syphilis, the open mouths of the crypts presenting a favorable lodgment for the virus.

Jessen[15] believes, as does Zarniko,[66] that in many cases, scrofulosis represents nothing more or less than a general infection from the tonsil, more especially the pharyngeal tonsil. Jessen quotes four very interesting cases which show that after the removal of adenoids in young children, the symptoms of scrofulosis subsided. As scrofulosis is blended with tuberculous adenitis of cervical and bronchial lymph-nodes, the cause of a sudden eruption of a latent tuberculosis into acute phthisis, miliary tuberculosis or tuberculous cerebral meningitis, is at hand.

This leads to the suggestion that the tonsillar tissue may oftener than credited be the port of entrance of tubercle bacilli into the general system.

Pluder and Fischer[67] demonstrated the presence of tubercle bacilli in the tonsil limited to the mucosa in five out of thirty-two cases examined and believe this condition represents a latent primary form of the disease. They quote Lermoyez who found the tonsils tuberculous twice in thirty-two cases examined, Gottstein four times in thirty-three cases examined, and Brindel eight in sixty-four cases examined.

Friedman,[68] in a careful histological examination of one hundred and forty-five cases in fifty-four of which the tonsils were removed during life and in ninety-one on postmortem, from young children, states that tonsillar tuberculosis occurs as often primarily through infectious feeding as secondarily from the sputum, and he concludes that the tonsils especially in small children, are not without importance as portals for tuberculous infection.

To me the following case illustrates the relation of tonsillar disease and pulmonary tuberculosis: S. A., aged twenty-one years, barber; has been under observation for two years, never, however, for any pulmonary complaint. In several examinations of the chest made during that time no evidence of pulmonary disease was noted. The family history gives no tuberculous history. In August the patient came to me complaining of malaise, weakness, cough and night-sweats. There had been hemoptysis a number of times a few days prior to his visit, which the patient interpreted as from his stomach.

Physical examination reveals along the left supra- and infraclavicular space harsh breathing, subcrepitant râles and broncophony; in the mammary region of same side, bronchovesicular breathing and friction râles; at the right apex increased vocal fremitus a few râles; at the left and right suprascapular region increased vocal transmission, bronchial breathing, and fine crepitation. The cervical lymph-nodes were enlarged. Examination of the sputum showed tubercle bacilli. On examination of the pharynx the right tonsil is remarkedly hypertrophied. It was removed, not in the hopes of offering anything in the way of treatment, but for histological examination. No tubercle could be detected, but the lymphoid tissue was increased as was the connective tissue stroma; the epithelium of crypts was also increased.

Although no tubercle can be detected in the sections thus far examined, I am nevertheless convinced that, because of the enlargement of the cervical lymph-nodes, the tonsil is a portal of entry for the tubercle bacillus.

In conclusion it has been shown:

1. That the normal tonsil has a physiological function, probably protective to the organism.

2. That being in itself often diseased, the physiological function of the tonsil is impaired and that instead of being protective, it is the nidus for the growth and distribution of pathogenic organisms

and their poisonous products into the system.

3. That many grave and fatal general infections have their origin in the tonsils.

4. That, if the exanthemata, especially scarlatina, are of bacterial origin, the tonsil acts in part as port of entry.

5. That acute articular rheumatism and the diseases often associated with it, endocarditis and chorea, in a great majority of cases are due to the action of attenuated bacteria, their toxins or both entering the general system through a diseased tonsil.

6. That in rare cases of typhoid fever in which no intestinal ulcerations can be demonstrated, the similarity of the tonsillar tissue and Peyer's patches suggests the portal of entry of the Eberth bacillus into the tonsil.

7. That scrofulosis is often associated with diseased tonsillar tissue and that the tubercle bacillus often enters the system via the tonsils.

8. That the tonsil is too little examined at necropsy and that much light might be shed on fevers of uncertain origins by bacteriological and histological examination of it.

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MEDICAL PROGRESS.

Deleterious Effects from the Use of Coffee.—Probably too little attention is paid to the functional disorders of the nervous and digestive systems, induced by the habitual overindulgence in the use of coffee. W. M. LESZYNSKY (*Med. Rec.*, Jan. 12, 1901) believes that this beverage is the cause of a large number of the neurasthenic symptoms so common among the American people. One-third of all coffee is consumed by Americans and since its action is to excite the imagination and the memory and to augment the power of attention, it is reasonable to suppose that under the strain of overwork of our modern civilization many are induced to temporarily stimulate their mental faculties far beyond the capability of the individual. The symptom-complex usually noted is as follows: General nervousness, tremor, vertigo, restless sleep, cardiac palpitation, eructations of gas and constipation. The pupils are slightly dilated and the reflexes exaggerated. A severe case may be confounded with alcoholism. An important difference between the acute and chronic form is that when taken in large doses it causes extreme excitability, but in the chronic form which is the more common the toxemia manifests itself as a depressive form of neurasthenia A gradual reduction in the amount used is necessary and a substitution, if indicated, of some harmless beverage. As a sedative to the nervous system the following is recommended three times per day: Sod. Brom., gr. xv; Lig. Potas. Arsenitis., ♏ ij; Tinct. Gent. Comp., ʒ ss; Ext. Kola Fld., ♏ xv. At the end of a few weeks, tonics such as quinine, iron and strychnine should be substituted.

Intestinal Flora of Sucklings.—H. TISSIER (*Thèse de Paris*, 1900) has very recently brought forward some interesting results of studies made in Professor Grancher's laboratory in

Paris. The conclusions reached are based on 19 clinical observations and many bacterial investigations. Briefly, the contents of this monographic article of 254 pages may be summed up as follows: The intestinal flora widely varies, depending on whether the infant is bottle-fed or nourished at the breast. In the breast-fed child, after an aseptic phase which lasts from ten to twenty hours, bacteria appear in the intestinal contents, cocci and bacilli; in the stools following the first feedings appear successively the bacillus putrificus coli and the bacillus bifidus. This infection appears to come from the mouth; the coli may come, however, from the anus. Toward the fourth day the flora becomes fairly constant—B. bifidus, B. coli, streptococcus, B. lactis aerogenes. In pathological stools there may be present in addition the diplococcus liquefaciens, B. anærobius perfœtens, and a streptococcus which looses its stain by Gram. In bottle-fed infants the B. acidophilus, B. exilis, enterococcus, B. coli, B. lactis ærogenes, B. bifidus, sarcinæ, etc., are often present. In the chronic gastro-intestinal infections of infants the diplococcus griseus liquefaciens, B. minutis, and members of the colon group are often found. The examination of the stools suffices to enable one to draw conclusions as to the method of feeding. In breast-fed children the fermentations are of little pathological significance. In bottle-fed infants digestion is incomplete and the intestinal contents richer in fermentable substances than when nourished at the breast. The determining cause of gastro-enteritides is almost always an infection; in a few instances the affection is purely toxic in character. The author does not recognize a primary endogenous infection. The relative immunity of the breast-fed child seems to depend (1) on the chemical condition of the intestine little favorable to the development of bacteria; (2) on the presence within the intestinal canal of the B. bifidus which inhibits the growth of the B. anærobius perfœtens, streptococcus intestini, B. coli and lactis ærogenes. The susceptibility of artificially-fed children depends (1) on the chemical state of the intestinal contents, richer in fermentable substances; (2) on the bacterial flora less resistant to the action of poisons, which contains varieties neutralizing the action of inhibiting organisms like the B. acidophilis, and other forms, resembling some varieties of sarcinæ.

Urethrotomia Interna.—B. GOLDBERG (*Deutsche Zeitsch. f. Chir.*, Nov., 1900) says that this operation should be done so that the incision is only on the upper wall of the urethra. The reasons are that mesially the urethra is most free from erectile tissue on its dorsum, hence hemorrhage is much less apt to be severe than when the other walls are cut. The only exception to this rule is that in the membranous urethra the venous plexus of Santorini is present over its dorsal aspect. When the pendulous urethra is the site of operation it should be drawn tense so as to make it easier to cut. The best instrument for all-round service is the Maisonneuve. The most careful antisepsis must be observed. All possible instruments must be boiled and others immersed for a long time in antiseptics. When the lumen of the stricture permits, urethral and vesical irrigation must be practised. In impassable occlusions urotropin is very serviceable in rendering the urine clean. The retention of a catheter for one or two days after the operation is of service. The prognosis of this operation as to fatalities is absolutely good; as to cures as favorable as possible, and as to infiltration of urine, infection and other complications considerably better than the external.

Tetany in Infancy.—JOHN L. MORSE (*Phila. Med. Jour.*, Jan. 5, 1900) considers briefly the character, the etiology and the frequency of the occurrence of tetany in infants and reports in detail seven cases of interest not only as examples of the condition, but also as throwing some light on its etiology. A summary of these cases shows that there was no common etiologic factor. Digestive disturbances occurred in all but one. In one case they seemed the only factor, while in two others they seemed the only important factor. In only one case were they apparently unimportant. Moderate signs of rickets were present in one case and slight signs in three others. Craniotabes was not present in any case. The gums were distended by teeth in two cases, and in one of these no other cause of tetany was evident, but in this case the condition of the gums remained unchanged after recovery. Influenza seemed to be the cause in one case and syphilis in another. In all except one case conditions were present which were evidently capable of causing toxic products. Morse concluded that tetany is due to the action of the toxic products of many diseaseed conditions on the nervous system, and, for this reason, says that treatment must be directed to the cure of the primary disease, to the prevention of the formation of toxic products, and to their elimination, if already formed. Symptomatic treatment is also important to relieve pain and discomfort, but should not be employed to the exclusion of the treatment of the causative condition.

Vaginal Caesarean Section.—A. DÜHRSSEN (*Archiv. f. Gynäk.*, Bd. 61, Hft. 3) reports another case of eclampsia in which the uterus was emptied quickly by the method which was first presented by him in 1896. In this case the cervix was brought down to the vulva and the posterior lip held with two volcella. A transverse incision in the anterior vaginal vault permitted stripping off the bladder and the peritoneum from the cervix and body of the uterus. The widely-exposed cervix was now mesially divided throughout its length and the superjacent uterus until the hand could be introduced and version and extraction done. The head of the child made extension of this cut for a centimeter and a half. The placenta was manually extracted.

Hemorrhage was checked by packing. The cut in the uterine body and the transverse vaginal opening were sutured with catgut. The pre-uterine space was drained and the vagina tamponed. The cervix was not sutured. Death occurred on the twenty-third day after delivery of pneumonia. The patient was tuberculous and the pneumonia was of this character. All conditions associated with the eclampsia had vanished before death. Reserving the classic abdominal Caesarean section only for cases of contracted pelvis, Dührssen thinks the vaginal method will fulfil all the desiderata of neatness, rapidity, safety and propriety whenever interference in the interests of the mother or child is necessary. Union of the wound occurs, so as to give very slight scar and not interfere with subsequent normal delivery. The operation is properly entirely extra peritoneal.

Cardiac Syphilis.—W. ZYDLOWICZ (*Klin. therap. Woch.*, Jan. 6, 1901) points out that syphilis shows a certain predilection for the circulatory organs. In many people, especially the aged, there will be found an arhythmic pulse a short time before the appearance of the roseola which in itself is of slight importance, since it disappears with specific treatment, yet it considerably modifies the prognosis. Later, changes in the heart may take the form of an interstitial myocarditis, depending on an obliterating endarteritis or on gummata or on both together. The pericardium, endocardium and the valves are only involved later by continuity. On physical examination, nothing as a rule is found except arhythmia and a moderately enlarged heart, and most cases are put down as neurotic. Yet the correct diagnosis is of great importance, since a cure is easy in the earlier stages, while later sudden death is very apt to follow. The author relates an interesting case in which mercury and iodide of potassium led to a complete cure.

Paroxysmal Hemoglobinuria. — A peculiar condition, in which blood appears in the urine of a patient after an exposure to cold, has been described by many authorities under various names, but, since the blood-cells are not present in the urine, the above name seems the most appropriate. A case is analyzed by W. J. LAMSON (*N. Y. Med. Jour.*, Jan. 19, 1901) in which attacks had occurred for several years, being almost entirely absent during the summer, but coming on very frequently, sometimes daily, during the winter. A typical attack began about 10 a. m., after an exposure to cold, with chilly sensations, cold and cyanotic extremities, increase of the jaundice hue which was constant, and some nausea. He then passed urine of a port-wine color, more frequently and in larger amounts than usual. The chill lasted from one to three hours, and the urine cleared up rapidly as soon as the patient became warm. The pathology of these cases is obscure, no autopsy having been reported. No adequate cause can be found, but it is supposed that, in a patient especially susceptible, a severe chilling disorganizes some of the red blood-cells which pour out their hemoglobin, and this is at once excreted by the kidneys. A change of climate seems to be the only efficacious method of treatment.

Treatment of Fractures.—To determine the value of the Lucas-Championnière method of treating fractures with massage, B. ROSSI (*Klin. therap. Woch.*, Dec. 23, 1900) did some extended experiments on animals which without doubt prove the value of this procedure. Transverse fractures were artificially produced in the middle third of the femur of rabbits; half of these were treated by massage, the other half by immobilization; in the former, firm callus had developed by the eighth day; in the latter, by the fourteenth only. Microscopically, abundant formation of osseous tissue could be demonstrated in the one set, while not a trace of it could be found in the other.

Hemarthrosis of the Knees.—Two peculiar cases of hemorrhage into the knee-joints are reported by R. A. HIBBS (*N. Y. Med. Jour.*, Jan. 19, 1901). The patients were brothers, eleven and fifteen years old, giving the history that two hemophiliac brothers died in infancy. For several years they have had attacks of sudden swelling of the knees, showing definite signs of the presence of fluid. The joints were so painful after such an effusion that walking was difficult for several days. No other joints had been affected and, although at times the attack was accompanied by hemorrhage from the mucous membranes, the latter was not a constant feature.

Leucoplacia.—Despite the fact that leucoplacia has frequently been considered a syphilitic manifestation, J. SELLEI (*Monatshft. f. prakt. Dermatolog.*, Jan., 1901) considers it a separate and distinct disease, for not only can a specific history be rarely obtained, but it is frequently found that the placques become carcinomatous—a condition which is rare in luetic lesions. The latter also do not show such tendency to be limited to the tongue. Certain pathognomonic signs of syphilis are generally absent in true leucoplacia, such as enlarged nodes and rapid disappearance with mercurial treatment and the presence of other syphilides. Pathologically there is found an infiltration in the corium with hypertrophy of the elastic fibers. In many places the lumina of the vessels are much narrowed owing to thickening of the intima.

Suprarenal Extract in Addison's Disease.—The history of an interesting case of morbus Addisonii is related by P. EDEL (*Münch. med. Woch.*, Dec. 25, 1900). When the patient was first seen the disease had lasted six months without remission, while two to three days after the administration of suprarenal extract a marked improvement had already taken place and two weeks later the patient returned to his former laborious occupation. Unfortunately somewhat later, meningeal symptoms developed, the pigmentation reappeared and the patient died after a brief illness. The post mortem showed a tuberculous nodule in one suprarenal, with tuberculosis of the meninges and of the lung.

THERAPEUTIC HINTS.

Catarrhal Jaundice.—As a rule, writes Wm. Osler, the patient can keep on his feet from the outset. Measures should be used to allay gastric catarrh, if present. A dose of calomel may be given and the bowels kept open by salines. The patient should not be violently purged. Bismuth and sodium bicarbonate may be given, and the patient should drink freely of the alkaline mineral waters, of which Vichy is the best. Irrigation of the large bowel with cold water may be practised, but has not given the author good results.—*Practice of Medicine.*

Nasal Douche.

℞ Sodii salicylat.....
Sodii borat..... aa. 24.0 (℥ vj)
Sodii bicarb.....
Sodii chlorid.....aa. 40.0 (℥ x)

M. Sig., grams 4.0 (℥ j) to grams 500.0 (O j) of tepid water.—*Ingals.*

Syphilitic Eruptions.—Startin's lotion is as follows:

℞ Hydarg. chlor. corrosiv. 0.13 (gr. ij)
Ac. nitric dil,..... 2.0 (℥ ss)
Ac. hydrocyan. dil..... 2.0 (℥ ss)
Glycerin ..... 4.0 (℥ j)
Aquæ q. s. ad..... 120.0 (℥ iv)

—*Bartholow.*

Acute Rhinitis.—In the beginning an attack may often be aborted, writes E. F. Ingals, by morphine, gram 0.01 (gr. 1/6), with or without atropine, gram 0.0005 (gr. 1/120), pulv. ipecac, gram comp. 0.7 (gr. x), pilocarpine hydrochlor., gram 0.008 (gr. ⅛), quinine, gram 0.4-0.7 (gr. vj-x) or a hot sling taken at bedtime. It may also be checked in a similar way by one or two doses of ammon. carbonate, gram 0.7-1.3 (gr. x-xx), ammon. chlorid., gram 1.3-2.0 (gr. xx-xxx), lig. ammon. acetat., tincture of belladonna, tincture of euphrasia officinalis, ammoniated tincture of guaiacum, or an emetic dose of antimony. The action of these is favored by a hot foot-bath containing a handful of mustard. If abortion fails, inhalation through the nose of warm vapors or sprays of ammonium chloride, sodium bicarbonate, or boric acid, are grateful to the patient and aid resolution. Turkish baths, diaphoretics and diuretics may expedite the cure. A useful powder for insufflation is the following:

℞ Cocaina ..... 3 parts.
Sod. bicarb.....
Sod. borat.....aa. 1½
Iodol 25
Magnes. carb. levis..... 1
Sacchar. lactis. ad.....100 parts.

Spray frequently with cocaine, 1 to 2 per cent. in water or oil. In some cases an aqueous extract of the adrenal glands gives better results. If the disease persists spray with vaseline oil, and give small doses of hyoscyamus or cannabis indica with camphor or phenacetine and quinine. Keep bowels open.—*Diseases of Chest, Throat, and Nasal Cavities.*

Neuralgia.—When this is due to reflex irritation from the female pelvic organs, writes Roberts Bartholow, the preparations of zinc, notably the valerianate, are often extremely beneficial, for example:

℞ Zinci valerianat.....
Ext. gentianæ.....aa. 1.3 (gr. xx)
Ext. nucis vomic..... 0.3 (gr. v)

M. Ft. pil. No. xx. Sig.: One three or four times a day.

Dysentery.—In some cases, writes Andrew Davidson, ipecac, gram 0.7-4.0 (gr. x-℥ j), alone or with opium, is the successful drug. In others ipecac is useless and perchloride of iron tincture, or calomel may succeed. Niemeyer recommends calomel, gram 0.06 (gr. j), and opium, gram 0.015 (gr. ¼), every two hours. Rest is of great importance, and in most instances the diet should be milk, either plain or with lime-water or peptonized. When milk fails, give tablespoonful-doses of beef essence made from a pound of good meat, minced, mixed with water, grams 60.0 (℥ ij), allowed to stand an hour, then placed in a vessel of boiling water for three hours and strained. When prostration is great, wine or brandy is indicated. If the patient be very thirsty whey may be given. Much relief may be obtained from a linseed poultice over the whole abdomen, and, if there is considerable gastric irritation, a sinapism, or spongio-pilene placed in hot water and sprinkled with turpentine, may be applied to epigastrium. If there is fever and sweating a poultice may only increase the suffering. After each stool wash the anus with some disinfecting fluid to prevent excoriation. In giving ipecac, precede by thorough flushing with sodium sulphate or calomel, then administer the ipecac in doses of grams 2.0 (℥ ss) every six, eight, or twelve hours. Vomiting after the first dose will do good rather than harm, but the second dose should be preceded by mustard over the pit of the stomach and tincture of opium, gram 0.7-1.0 (♏ x-xv), internally. If ipecac is inadmissible for any reason, the saline treatment may be resorted to, especially sulphate of sodium, grams 30.0 (℥ j), every morning. Sulphate of magnesium may be helpful. Benzonaphtol, betanaphtol, or resorcin, in large doses may diminish the intestinal fermentation and enemas may be of moderate advantage.—*Allbutt's System of Medicine.*

Chronic Alcoholism.—To relieve the trembling, to diminish the appetite for strong drink, and to relieve the gastric catarrh, the following is very useful:

℞ Zinci oxid.....4.0 (℥ j)
Piperin .....1.3 (gr. xx)

M. Ft. pil. No. xx. One three or four times a day. Small doses of chloral and bromide may be added.—*Bartholow.*

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OF MEDICAL SCIENCE.

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SATURDAY, JANUARY 26, 1901.

CYTODIAGNOSIS.

WIDAL, the inventor of the agglutination test for the diagnosis of typhoid fever, seems to have added another helpful measure to our diagnostic armamentarium by his work in cytodiagnosis. The effusions that take place into the various serous cavities of the body under pathological conditions show under the microscope a variety in the cell-contents, according to the cause of the effusions. This is especially noticeable in pleuritic effusions, and will probably prove valuable in determining the line of treatment and in making prognoses. For diagnostic purposes, it is only necessary to draw off a few cubic centimeters of serous fluid with an ordinary hypodermic syringe. The liquid is centrifugated after defibrination, and some of the sedimentary part is spread with a platinum loop upon a cover-glass. It is then stained with thionin, or eosin hematein, or with Ehrlich's triacid solution.

Under the microscope the characteristics of the various forms of effusion are revealed. Ordinary pleurisy, for instance, presents in its cellular sediment only small lymphocytes and at times a relatively large number of red blood-cells. The lymphocytes show a marked tendency to run together. It will be remembered that this form of pleurisy has of late years been considered to be tuberculous in origin. Even when tubercle bacilli cannot be found in the sediment, the injection of the pleuritic exudate into animals often results in the development of tuberculosis, and it is well known that tuberculosis may subsequently develop in patients who have suffered from so-called idiopathic pleurisy.

Pleuritic effusions in distinctly tuberculous patients present quite a different cell-formula from that of what may be called latent tuberculous pleurisy. Very few cells are found in the centrifugate, rare lymphocytes and scattered red blood-cells. The characteristic find is a certain number of old, deformed polynuclear leucocytes, the nuclei of which are very irregular and contain deteriorated neutrophile granules. This same cell-formula occurs in the exudate of tuberculous hydropneumothorax, and it is strangely suggestive of the chronicity of the pathological process at work.

Mechanical hydrothorax, occurring in cardiac and renal cases, or because of compression, presents a cell-formula characterized by the number of large endothelial cells. These have fallen from the surface of the pleura, and often retain their connection with each other by twos or threes. If the effusion is old, the cells are more apt to occur singly, their adhesions having given way during their maceration in the fluid of the exudate.

Pneumococcus pleuritic exudate presents, according to Widal, the most striking picture of vital reaction and defense against the invading infectious agent. A few lymphocytes and red blood corpuscles are found, but most of the cells are polynuclear leucocytes of very active vitality as regards their phagocytic properties. There occurs in addition a certain number of large mononuclear lymphocytes, evidently of endothelial origin, but very seldom found adherent to one another. These are, in Widal's words, veritable macrophagocytes, and are often found to have engulfed polynuclear leucocytes.

Streptococcus pleurisy gives an exudate without the characteristic signs of reaction, or, at most, only evidence of an abortive effort to throw off the infection. The cell-formula consists mainly of polynuclear neutrophiles with deformed nuclei. Exudates that occur during the course of typhoid often present a number of large mononuclear leucocytes significant of successful reaction to the infection.

Serous effusions into other cavities present cell-formulæ that bear analogies to those of pleuritic exudates. Although Widal was not able to culti-

vate any form of germ from the articular exudate of 15 cases of rheumatism, the character of the cells present, mostly polynuclear leucocytes of active type, showed a very marked reaction to infective invasion. Traumatic arthritis presents a distinct analogy to mechanical pleurisy, characterized by the presence of cells from the serous lining of the joints. The arthritic effusion into tabetic joints has the general character of a traumatic arthritis. Most cases of hydrocele, according to their cell-formula, are also of mechanical origin.

ACUTE DILATATION OF THE HEART AND SUDDEN DEATH.

THE fact that death occurs quite unexpectedly in children who are suffering from diphtheria, or even in those who have apparently recovered from an attack, makes the subject of heart dilatation a matter of great importance in the treatment of this disease, as well as in certain cases of influenza and rheumatic fever in which it sometimes causes fatal syncope.

It has been thought by some that sudden death after diphtheria is caused by a neuritis of the vagus; but, from a careful pathological study of the heart by several observers, it has been shown that the fatal syncope that follows diphtheria is probably due to a diseased condition of the heart itself rather than to disease of its nervous mechanism. In some cases of death following diphtheria, a fatty degeneration of the cardiac muscle has been found, and in other similar cases, as well as in sudden death following rheumatic fever, very marked degeneration of many of the cardiac muscular fibers, and complete destruction of some parts of them have been observed.

Such investigations naturally lead us to conclude that there must be more or less degeneration in a large proportion of the cases that recover, and the practical question arises, whether such cardiac degeneration may be detected by clinical investigation.

This has been answered and well discussed by Dr. W. B. Lees (*British Medical Journal*, January 5, 1901), in an article entitled "Acute Dilatation of the Heart in Diphtheria, Influenza, and Rheumatic Fever." He says that from his experience with such cases, the clinical indications which should be sought for are: Feebleness of the pulse-wave; feebleness and diffusion of the cardiac impulse; extension of the cardiac dulness to the left; feebleness of the first sound at the apex, with accentuation of the pulmonary second sound and a marked accentuation of the aortic second sound. He has found that in children suffering from diphtheria the cardiac dulness is usually increased toward the left. If this extends two fingerbreadths to the left of the nipple line, there is urgent peril and the child must not be allowed to sit up in bed under any consideration. A rapid increase in dulness sometimes takes place in a few hours, and is frequently accompanied by vomiting, which is a sign, and an unfavorable one, of acute cardiac dilatation. Unless careful percussion and palpation is continued during apparent recovery from such an attack the patient may be in danger at any time from exertion. In time, however, with extreme care, the heart will usually return to the normal size.

In influenza, rapid dilatation of the heart frequently occurs within a day or two after the onset of the disease, and it sometimes causes fatal syncope. Here, as in diphtheria, two fingerbreadths of dulness indicate danger. In *Jacobi's Festschrift*, Forscheimer called attention to this condition and has described with striking clearness two types of the disease. He is inclined to lay great weight on the action of the toxins of the influenza bacillus on the medullary center.

In rheumatic fever, even in slight attacks, acute dilatation of the heart seems to be invariably present, but, although so much more frequent than in diphtheria or influenza, it is not nearly so fatal, probably because the several toxins affect the cardiac muscle differently. When, however, dulness is found in a patient with rheumatism, which extends beyond two fingerbreadths to the left of the nipple, and is accompanied by sudden vomiting, pallor and coldness, there is great danger of collapse.

It is very evident from these well-recognized facts that greater attention to the study of cardiac dulness will avert disastrous results and that fewer cases of sudden death will have to be reported if sufficient caution is taken.

THE PRESENT STATUS OF RHEUMATIC FEVER.

THE gradual drift of medical opinion is not more strikingly shown with reference to any disease than in the case of rheumatic fever. Many and persistent have been the theories regarding its etiology, from the earlier views of Cullen in 1784, who taught that the disease was due to the direct

influence of coid upon the joints, to the *fin de siècle* hypotheses of neurochemical action.

In the current number of the *Practitioner*, January, 1901, there is presented a review of the present status of rheumatic fever of more than usual interest. Papers by Drs. Newsholme, Poynton, St. Clair Thomson, Gibson, Still and Luff on the Epidemiology, Pathology, Rheumatism and the Throat, Effects of Rheumatism on the Heart, Rheumatism in Childhood and the Treatment of Rheumatism, respectively, afford a survey well calculated to impress the reader.

In his discussion of the Epidemiology of Rheumatic Fever, Dr. Newsholme dissipates some popular misconceptions regarding this disease. He insists that rheumatic pains, so called, those usually induced by the influences of wet weather, have absolutely no connection with rheumatic fever, and that this disease has been shown, by statistics drawn from wide sources, to be much more prevalent in dry seasons than in wet ones. The conclusion is expressed that a heavy annual rainfall is usually associated with a low amount of rheumatic fever and a small rainfall with an excessive amount of rheumatic fever, though no exact proportion of the two factors can be predicated.

He further shows that the incidence of this affection is sufficient to warrant the belief in the epidemic character of the disease. Two kinds of epidemics are to be distinguished, the explosive and the protracted. The explosive epidemics terminate in one or, at the most, in three years The protracted epidemics are seen chiefly in large centers of population or when the statistics of a large country are being studied. The author believes in the contagion theory and hazards the surmise that inoculation of the contagion of rheumatic fever may be caused by domestic vermin.

Dr. Poynton presents the various theories which have arisen to explain the pathological features of the disease, and finds favor with the infectious theory. The diplococcus, isolated by himself and Paine (*Lancet*, September 22, 29, 1900) from twelve cases of rheumatic fever and demonstrated in the pericardium, the pleura and cardiac valves, is held to be *a* cause of rheumatic fever, and he moreover says that one of the most important sites of infection is the throat, in which connection, the paper by Ullman in this week's issue of the MEDICAL NEWS is of interest. The paper following, by Dr. St. Clair Thomson, on Rheumatic Fever in Relation to the Throat, discusses this same question very clearly. He considers the two points of view so frequently debated, that, on the one hand, the poison enters the body through the tonsil, the inflammation of which may be the earliest indication of the systemic affection, or that certain inflammations of the tonsils occur with greater frequency in patients with an arthritic diathesis. Each of these views is worthy of some consideration, and although our knowledge is not, at the present time, enough to fully answer the query, a fuller insight into the precise character of the anginas will probably answer these questions. At all events, it seems certain that from thirty to eighty per cent. of all cases of rheumatic fever are associated with tonsillar angina and that no direct relationship seems to exist between peritonsillar angina (quinsy) and rheumatism.

It is generally admitted that heart lesions may precede the articular symptoms and Dr. Gibson, in his paper, brings out the significant fact that it is unnecessary to consider the heart lesions as complications of the articular changes any more than it is to discuss the reverse position. The two are the same disease, similar in kind, if not in degree, and the query arises, not, how shall the cardiac complications be avoided, but how shall the cardiac rheumatism be treated. He enjoins absolute rest, a milk diet, the salicyl series of compounds, the iodide of sodium, as an absorbent and counterirritation, by means of small fly blisters, applied every night or every other night, over the precordia.

To measure the frequency of rheumatism in childhood by the number of patients who come for treatment of the articular lesions is entirely to misunderstand the prevalence of this disease in early life, says Dr. Still in his paper. The heart implication may occur alone as the earliest symptom and no more significant feature is brought out in the discussion than the importance of the early recognition of rheumatism in childhood. Slight symptoms are apt to be overlooked and early manifestations of pain are only too liable to be dismissed as "growing pains." As Dr. Still points out, "it is by paying attention to the 'day of small things,' the apparently trivial aches and pains, and the various associations which make up the picture of rheumatism in childhood, that we may hope, in some cases at least, to prevent those terrible results which are too often seen from neglected rheumatism in children."

Dr. Arthur P. Luff, in discussing the "Treatment," lays stress on the employment of salicin and the salicylates originally introduced by Maclagan and the German school in 1874, and now so widely used the world over.

ECHOES AND NEWS.

NEW YORK.

Mount Sinai Appointments.—Dr. Hiram N. Vineberg has been appointed adjunct attending gynecologist to the Mount Sinai Hospital.

Dr. Moore Reinstated.—The official reinstatement of Dr. J. W. Moore of Bellevue Hospital took place last week. He resumed his duties in the medical wards by order of Commissioner Keller.

Red Cross Hospital.—William T. Wardwell, President of the Red Cross Hospital in West Eighty-second Street, has given $40,000 to aid in the erection of a new hospital much needed by the management.

For Pure Food.—Another bill carrying out a recommendation of the Governor, and introduced by Senator Ambler, transfers to the State Agricultural Department the supervision of all food products, except beverages, confectionery and drugs. The bill also prohibits the sale of adulterated food in this State and defines what foods shall be judged adulterated.

Charity Societies Protest.—Governor Odell's idea for a new State Board of Charities, which was embodied in the bill introduced in the Legislature recently, does not meet with the approval of the charitable societies of New York. The bill calls for the abolition of the present board and substitutes for it a commission of three members, consisting of a commissioner and two associates.

Omega Upsilon Phi Fraternity.—The Omega Upsilon Phi Fraternity (medical) has just organized two new chapters, one at the University of Colorado, composed of fifteen students and several members of the faculty; the other a "graduate chapter" in New York City, to be known as the "Henry C. Coe Chapter," in honor of Professor Coe of the University and Bellevue Hospital Medical College.

State Board of Health Legislation.—The last of Governor Odell's State Commission Consolidation bills was introduced in each branch of the Legislature January 21st, when a bill abolishing the present State Board of Health and providing for a single-headed commission was introduced by Senator Audett. The Commissioner of Health is to be appointed by the Governor, and is to be a physician of ten years' experience in actual practice of his profession. The term of the first Commissioner is to expire on December 31, 1904, and thereafter his successor shall be appointed for a term of four years. The Governor is to appoint the Commissioner within twenty days after the act takes effect, when the terms of the present members of the State Board of Health and the Secretary of the Board shall expire. The Commissioner is to receive a salary of $3,500 and is empowered to employ such clerical assistance as may be necessary. A State Bureau of Vital Statistics is created, to be under the Commissioner's supervision. The powers and duties of the present board are to devolve upon the single-headed commission.

Typhoid at Sing Sing.—The prevalence of typhoid fever among the prisoners of Sing Sing has brought the attention of the State Board of Health to the institution and it looks as though that body would condemn the prison for its unsanitary arrangements and recommend that a new prison be built. On Saturday Charles F. Wingate, consulting engineer to the State Board of Health, made an examination of the prison's sewerage system. He found that the prison cells were but four feet above tidewater and that the sewage emptied into the Hudson at low tide backs up under the prison buildings. He also condemned the whole plumbing system. There are forty cases of typhoid among the convicts, and there have been two deaths from the disease in the past two months. The cases were first attributed to the impure condition of the Croton water with which the prison is supplied. Dr. Daniel Lewis of New York, President of the State Board of Health, believes the prison should be moved to higher ground. The State owns several hundred acres of high land east of the prison which would make a suitable site. It is the general impression, however, that if a new prison is to be built it will be in another part of the State. The prison was built in 1834.

PHILADELPHIA.

University of Pennsylvania.—Dr. J. Whitridge Williams of Johns Hopkins University addressed the Barton Cooke Hirst Obstetrical Society, January 16th.

Dr. H. A. Kelly.—Dr. Howard A. Kelly of Baltimore addressed the Student Volunteers of this city on the study of the Bible, Saturday evening, January 19th.

Norristown Hospital.—Dr. Mary M. Wolfe has been elected chief resident physician in the female department of the State Hospital for the Insane at Norristown to succeed Dr. Susan J. Taber, Dr. Alice Bennet withdrawing her name as a candidate after several tie ballots had been taken.

Cost of Maintaining Insane.—The Secretary of the State Board of Charities gives the following as the weekly cost of maintaining each patient in the various hospitals for the insane in Pennsylvania: Harrisburg, $3.75; Danville, $3.73; Norristown, $3.29; Warren, $3.50; Dixmont, $3.85; Wernersville, $2.96.

Filtration Expert Deposed.—The expert bacteriologist in charge of the test filtration plants of the city has been relieved because of errors in his work and computations. Supposed sterile jars were contaminated, one result of this being the statement that Schuylkill water contained 480,000 germs per cubic centimeter, which was reduced to 40 or 50 by filtration. It was also claimed that a percentage of 99.87 had been reached by the filtration methods under use.

The tests will be continued under new supervision.

Pharmacists to Suggest New Laws.—The Pennsylvania Pharmaceutical Association will recommend some changes in the law as a result of the recent numerous prosecutions by the Board of Examiners. One feature is that druggists will be divided into two classes, first, those who sell prepared articles in the original packages, and, second, prescription druggists. Another feature is that the Commonwealth provide the expenses of examinations, enforcements of the law, etc., instead of having the Board of Examiners do this and keep the fees and fines as their compensation.

College of Physicians.—The Section on Gynecology met January 17th. Dr. E. E. Montgomery read a paper on the "Treatment of Prolapsus Uteri." This depends on the degree, repair of the perineum with resection of a portion of the anterior vaginal wall sufficing in some cases. In others ventral suspension should be added with possibly shortening of the uterosacral ligaments as well. Accompanying hernia should be treated by uniting the folds of peritoneum to obliterate Douglas' cul-de-sac. An extreme degree of prolapse of a large uterus demands hysterectomy. This should be done through the anterior vaginal fornix, seizing the broad ligaments with the angiotribe and applying chromicized catgut ligatures in the grooves thus made. Dr. Charles P. Noble reported a case of cancer of the cervix and pelvis following supravaginal hysterectomy. This is the only case in his experience, which includes 175 hysterectomies for fibroids and a larger number for other conditions. There was reason for believing that an unrecognized cancer existed at the time of operation. Dr. George E. Shoemaker reported a case of salpingitis with obscure localizing symptoms. Pain was felt in the epigastric and gall-bladder regions, the point of greatest tenderness varying from the epigastrium to McBurney's point. Diagnosis was made by examination under ether. Operation showed the tip of the appendix adherent to the right ovary, but the appendix appeared otherwise normal.

CHICAGO.

Applicants to Practise Medicine.—It is said that about 75 applicants for certificates to practise medicine or midwifery in Illinois were examined by the State Board of Health at its meeting, recently held in this city.

Governor Yates' Message.—The Governor recommends the enactment of a law making boards of county commissioners boards of health in their respective counties. He also recommends legislation for the establishment of a sanitarium for the treatment of tuberculosis.

Anti-Spitting Ordinance.—Such an ordinance was passed by the City Council January 14th. In brief, it is as follows: *Whereas*, Spitting on sidewalks, in public places and in public conveyances is detrimental to health, by reason of the danger of spreading contagious disease, and is also a public nuisance which should be abated; therefore, be it *Ordained by the City Council of the City of Chicago* that no person shall spit on any public sidewalk or on the floor of any public conveyance, or on the floors of any theater, hall, assembly room or public building; that any person violating the provisions of this ordinance shall on conviction be fined in a sum of not less than $1.00, nor more than $5.00; that this ordinance shall be in effect after its passage and approval by the Mayor.

Observations of the Blood in Anemia.—At a joint meeting of the Chicago Medical Society and the Chicago Society for Internal Medicine, held January 16th, Dr. Joseph A. Capps presented a preliminary report on this subject. A study of fourteen cases of chlorosis showed that the red corpuscles in all cases have a smaller average diameter than in normal blood. The color index is constantly very low, while the volume index is decreased to a less degree. The red cells in twenty-four cases of secondary anemia are also subnormal in diameters. The color index is not so low as in chlorosis. The volume index falls also, but never so much as the color. The size of the corpuscles in seventeen cases of leucemia and the relation of hemoglobin to volume are essentially the same as in secondary anemia. Thirty-one cases of pernicious anemia give a decided increase in the average diameter of the cells. The color index is high, and the volume index still higher.

Home for Consumptives.—Efforts will be made by the Illinois Society for the Prevention of Consumption to induce the Legislature to appropriate $200,000 for the establishment of a State sanitarium for the care and cure of cases of that character. Plans and estimates for the building of the sanitarium, which have been under way for over a year, have been completed and Dr. John A. Robison, Secretary of the Society, has been instructed to submit them for the approval of the State Board of Health. The project is endorsed by Mayor Harrison, Health Commissioner Reynolds, and the Illinois State Medical Society. Preliminary to the introduction of the plan in the Legislature, the Society expects soon to stir up agitation by the free distribution of literature, showing the necessity for the isolation of hopeless consumptives and the need of extending aid to the afflicted who are unable to care for themselves. As the purpose of the sanitarium primarily is to give free aid, the Legislature also will be asked to provide for a yearly appropriation to maintain the institution.

Chlorosis, Its Diagnosis and Treatment.—A paper on this subject was presented by Dr. Gustav Fütterer. From his clinical experience and experimental observations, he emphasized the following points: (1) Great attention should be given to the study of chlorosis clinically; clinical observation should be controlled by taking the specific gravity of the blood; a very energetic treatment, mainly with beef-juice, properly pre-

pared, should be instituted at once and continued until the specific gravity of the blood has become normal. (2) Chlorosis or secondary anemia in tuberculosis must receive the same consideration and treatment, no matter what other treatment may be employed. (3) It is advisable to cause an artificial anemia in animals to be inoculated with suspected tuberculous sputum for diagnostic purposes, as a finer reaction will take place, and more accurate and probably quicker results can be expected. (4) Chlorosis in early years, or secondary anemia in later years, permits a round ulcer of the stomach to form and prevents its healing, while the presence of a normal percentage of hemoglobin brings about prompt repair, and that, therefore, chlorosis or secondary anemia, coexisting with round ulcer of the stomach, should receive first attention, before any so-called ulcer treatment is begun. (5) Therapeutic measures, particularly fresh and properly-prepared beef-juice, enable physicians to bring about a normal composition of the blood, both in chlorosis and in secondary anemia, as a rule, in a very short time.

Ureteral Implantation Into the Bowel.—Dr. Jacob Frank read a paper on this subject before the January meeting of the Chicago Academy of Medicine. After detailing considerable experimental work on ureteral implantation into the bowel, the essayist reaches the following conclusions: (1) The technic is all that can be desired; (2) bilateral implantation into the rectum simultaneously is primarily and remotely an extremely dangerous procedure, and can have no favorite place in human surgery; (3) While no single permanent implantation of the ureter into the rectum has demonstrated an absence of inflammatory reaction on the part of the kidney, nevertheless the essayist is of the opinion that it must be regarded as justifiable where other means fail, and has a limited place in pelvic surgery; (4) while stricture has not taken place, it cannot be said with confidence that scar contraction at the opening into the rectum will not in months or years produce one; (5) that the rectum will tolerate the presence of urine cannot be doubted, and has been proven to do so by many experimenters. In order to overcome the difficulties of stricture and ascending infection, Tuffier and Maydl, each claiming priority, proposed and carried out the implantation of the ureter by preserving the valve-like folds of cystic mucous membrane at the mouths of the ureters, thus protecting the kidney against infection. As long as the ureter is permeable and its sphincter functionating, so long is the kidney protected. This fact was proven to the speaker's satisfaction in his experimental work on vesico-rectal anastomosis.

GENERAL.

Plague Still Feared.—In spite of the reports that the postmortem examination of the remains of the three members of the crew of the British steamer "Friary" at Hull did not reveal that they were stricken with the plague, the authorities have ordered the "Friary" not to dock, but to anchor in the Humber. Two more deaths among her crew have occurred with symptoms of the plague. Five of the crew are isolated.

St. Louis Medical Society of Missouri.—At the meeting of January 19th, 1901, Dr. William Bayard Shields read a paper on "Influenza, More Especially its Effects on the Respiratory Organs and Accessory Nasal Sinuses." The following resolution was introduced at the meeting of January 5th, 1901: *"Resolved,* That two hundred and fifty dollars ($250) of the funds of this Society be set aside for the purposes of the special committee on State Legislation of the Medical Association of Missouri."

Medical Legislation in Germany.—Professor Neisser, of the University of Breslau, has just been severely censured and fined for having published an account of certain experiments to which he had subjected children who were patients in the University hospital. In obvious connection with this case is an order which has just been promulgated by the Prussian Minister of Public Instruction, directing the attention of those who have the management of clinical and polyclinical hospitals and similar institutions to the fact that medical operations for any purposes save those of the diagnosis, cure and prevention of disease are forbidden, even when otherwise permissible from the legal and moral point of view, in the case of minors, in cases in which express premission has not been given, and in cases in which this permission has not been preceded by a proper statement of the injurious consequences which might possibly result from the operation.

Obituary.—Dr. Charles Wesley Purdy recently died at Chicago of a complication of diseases, caused by overwork. He was born in Kingston, Ontario, in 1846, and was graduated from the Queen's University with high honors. Dr. Purdy made a life study of diseases of the kidneys, and wrote several books on the subject. He received several degrees from the Royal College of Physicians and Surgeons of Canada.

Rev. Charles E. Conrad, M.D., died last week at Quincy, Ill., aged eighty-one years. He was born in Siberia, and educated for the church and medicine at Berlin; went to British India in 1848, and, as the missionary who could heal, was sought after by thousands of the natives. He established asylums for lepers and epileptics at Lohordagga; was in Calcutta during the Sepoy outbreak, and in 1853 came to America, settling in Quincy. He established four flourishing Evangelical churches in that section and retired about three years ago.

Dr. Benjamin Brown, of Chicago, died January 17th, after a year's illness, aged sixty-six years. He was prominent both as a physician and in Republican politics in Chicago.

Omaha Afraid of Small-Pox.—Thirty-two hundred children in the Omaha public schools must either bare their arms to the vaccine point or discontinue their school attendance. Nine cases of small-pox have been reported this month. Ten last month.

CORRESPONDENCE.

A CORRECTION.

To the Editor of the MEDICAL NEWS:

DEAR SIR: I beg leave to amend the item in "Echoes and News," page 64, January 12th, 1901, under the caption "Death from Strychnine." The inmate of the Montefiore Home, a locomotor ataxic, died on Saturday, the 5th inst., after the administration of the dose $^1/_{30}$ of a grain, not *gram*, as stated in the source from which your note was taken. The order was given to administer $^1/_{30}$ of a grain of strychnine with antipyrin and acetanilid —a dose which he had taken on previous occasions. He died the same afternoon.

EDWARD S. PECK, M.D.,
President of the Medical Board of the Montefiore Home.

New York, January 15, 1901.

OUR LONDON LETTER.

[From Our London Correspondent.]

LONDON, January 1, 1900.

THE VITAL STATISTICS OF LONDON—A DIMINISHING BIRTH-RATE—THE DANGERS OF "GEYSERS" IN SMALL UNVENTILATED BATH ROOMS—FATAL ACCIDENT—THE ANNUAL REPORT OF THE SANITARY COMMISSIONER FOR THE PRESIDENCY OF BOMBAY FOR 1899—96,000 DEATHS FROM PLAGUE—THE DANGERS OF CELLULOID COMBS—SEVERE CASE OF BURNING.

THE report of the Medical Officer of Health for London has just been issued. It deals with 1899, for the compilation and collation of the statistics occupy the officials nearly a twelvemonth. The variations in the rates of marriages, births and deaths for the last half century are shown in a very striking manner by means of diagrams. Speaking generally, the rates of births, marriages and deaths have been lower in the second half of that period than in the first. Up to 1877 the marriage rate was 18.9 per 1000; since then it has been constantly lower, reaching the lowest level in 1887 and 1888, rising sharply in 1896 and 1897, and almost attaining the previous mean in 1898, but falling back last year to 18.4. The number of children born in 1899 was 133,585, giving a birth rate of 29.3, the lowest on record. Up to 1885 the mean was 35.5. The statistics of England and Wales show a similar diminution of the birth rate. In 1899 the deaths in London were 87,819, giving a rate of 19.3 which is below the average, 22.6.

A fatal case showing the dangers of using geysers in small unventilated bathrooms has occurred. A boy, aged fifteen, took a bath under these conditions. Some time afterwards a noise was heard, and the door was therefore broken open. The boy was found lying on the floor insensible. Medical aid was summoned but death took place in the afternoon. When the door was opened, the water in the bath was still warm, but the geyser was turned off. The only possible ventilation was by the window which was closed. The geyser had been in use 2½ years and was frequently cleaned. There was no smell in the room. Another person had taken a bath that morning and the geyser had worked perfectly well. The doctor who was called found the boy comatose. Oxygen was administered without avail. Death was due to carbonic oxide poisoning. The room was too small for a bathroom, measuring 8 x 8 x 4 feet. An expert called at the inquest testified that the flame was an ordinary gas jet and that the geyser worked perfectly well. The fatal result was evidently entirely due to the small size and non-ventilation of the room.

The annual report of the Sanitary Commissioner for the Government of Bombay for 1899 has a novel and melancholy interest. Its brightest feature is the reduced death rate of the European civil population, which was 12.52 per mille, against 13.14 in the previous year. Of the 231 European deaths in the Presidency, 16 were from plague and 12 of these occurred in the city of Bombay. The European birth rate was low—11.96 per mille. Eurasians on the other hand showed a rise in mortality, their death rate being 21.72, as against 19.84; in 1898 the birth rate was 19.49. In the native population there was a great increase of both births and deaths, as compared with the previous year. Violent variations in these rates have been frequent in Western India since the introduction of the plague. Thus in 1895 the births and deaths in the Presidency were 674,000, and 538,000; in 1896, 691,000 and 596,000; in 1897, 629,000 and 749,000; in 1898, 582,000 and 548,000; in 1899, 685,000 and 672,000. The birth rate of the native population was 36.42 in 1899, as against 30.94 in 1898; the death rates in these periods were 35.7 and 29.16. Terrible mortality returns are recorded in the urban population, thus at Nosch the death rate was 153, in Poona 128, at Karad 99, and at Harachi 95. The death rate of Bombay city was much lower than these figures—69. Ninety-six thousand people died of plague in the Presidency in 1899, the largest number yet recorded. Cholera claimed 8579 victims, twice as many as in the previous year, but far fewer than in many years of the last two decades. The small-pox statistics are eminently satisfactory and are a testimony of the value of the vaccination work done in the Presidency. There were only 1946 cases of small-pox, the lowest with two exceptions in the past 12 years. The deaths from fever were 228,000, which was below the decennial mean number. The mortality from dysentery and diarrhea was 74,736, a rather alarming increase; 2772 people died from drowning and 1444 from snake bite.

The dangers of celluloid combs is forcibly illustrated by a case which has recently occurred. A lady was sitting before a drawing-room fire, when the comb in her head became ignited. The flames were extinguished with difficulty and not before she was severely burned. She is progressing favorably but is not fit to be moved. Celluloid, which is a mixture of gun-cotton and camphor, is inflammable at a low temperature and therefore extremely dangerous. Several serious accidents have previously occurred from its use—one from the ignition of a celluloid collar.

TRANSACTIONS OF THE FOREIGN SOCIETIES.

British.

EMPHYSEMATOUS GANGRENE—NON-MALIGNANT CANCER—ENDOTHELIOMA OF THE BREAST—CYSTIC ADENOMA OF THE SUPRARENAL BODIES—SARCOMA OF THE STOMACH—MALARIA—PROTECTION FROM MOSQUITOES IN MALARIOUS DISTRICTS—RETROFLEXION OF THE GRAVID UTERUS—IMPERFORATE ANUS—ANGIOMA SCROTI—NON-RHEUMATIC NODULES.

E. M. CORNER and H. D. SINGER contributed a paper on the bacteriology of acute emphysematous gangrene at the Pathological Society of London, December 4, 1900, stating that it must be differentiated from hospital gangrene and the gangrene due to injuries to the vessels, and emphasizing two points, (1) the established identity of the bacillus aerogenes capsulatus and the bacillus emphysematosus, (2) the clinical distinction between cases due to mixed aerobic infection and cases due to mixed anaerobic infection. Under either of these classes both typical and atypical cases are found. Such varieties appear to be due to the differences in the virulence of the infecting germs, which had been experimentally proved to vary between non-pathogenic and highly deadly organisms. The prognosis in the cases of mixed anaerobic inoculations is better, as a rule, than in those of associated aerobic infections, probably because in the former much more gas is generated. This means an earlier diagnosis and a prompter treatment. The management of these patients depends upon the diagnosis. If this be early free incisions and continuous antiseptic bath are enough, if late or this plan fails amputation wide of the zone of infection must be promptly done. The variations in the treatment as recommended by many authorities probably are due to wide range of differences in the nocuousness of the bacilli. There are cases in which amputation was done through the infected tissues, which always presented recurrences. Hence, only healthy tissue should be included in the flaps. Three kinds of bacilli are recognized, of which the bacillus aerogenes capsulatus is the most common.

S. BONTOR described a case of non-malignant cancer of the left breast in a female who died at the age of seventy-seven years of asthenia, after having suffered the growth for twenty-three years, without ulceration, pain, secondary deposits in any of the lymphatic glands or internal viscera, with, however, similar or secondary growths in the opposite breast and in the skin of the abdomen. When the patient was fifty-four years old the growth appeared as a hard lump in the breast and the skin became scaly. There are other such cases recorded in literature. This was confirmed as cancer by a macroscopical and microscopical examination.

A. G. R. FOULERTON exhibited macroscopic and microscopic specimens from a case of endothelioma of the breast and glands of the axilla removed from a woman, fifty-six years old, who had had the neoplasm three years. All the specimens were of uniform deep red color. The microscopical appearances were of rows of cells supported by fibrous trabeculæ and forming the walls of blood-vessels from which extravasation had in many instances taken place. He considered that as advantageously distinct from the carcinomata and sarcomata should be classified the endotheliomata which arise from the small and large lymph-spaces of the body, namely, blood-vessels, lymph-channels and nodes, pleura, pericardium, peritoneum, etc.

H. THURSFIELD showed a stomach removed from a four-year-old child the seat of a primary diffuse sarcoma. Growths later than that in the stomach had appeared in the jaw and thyroid gland. At the necropsy examination of these was denied. The stomach-wall was diffusely and greatly thickened and its cavity enormously dilated. It was a small round-celled sarcoma. Statistics show that primary sarcoma of the stomach is very rare and even secondary sarcoma is not common. When present its form is discretely nodular, rather than uniformly diffuse. Four cases are mentioned in the annals of the society and there is one specimen very like the author's in the museum of the Royal College of Surgeons in England. This case, however, is unique in its occurrence in a really young child.

P. MANSON, at the Royal Medical and Chirurgical Society, December 11th, communicated a brief résumé of the parasitology of malaria. In 1896 and 1897, when this subject was widely discussed, it was known through what cycle the organism passes within the human body, but it was known definitely through what cycle it passes without the human blood. Since the disease is essentially one of the blood, and since it is specifically epidemiologically and geographically distributed the mosquito was looked upon as a very probable host for the organism. After two or three years of labor Ross demonstrated conclusively the truth of this theory. He first established the endogenous and exogenous phases of the coccidium Schübergii in bird malaria and then the strict analogy to it of the hemomenas precox, the parasite of estivo-autumnal fever. This organism in man has an asexual existence, attacking the red cells, developing, being liberated and in the new generation attacking other red cells. In the mosquito, however, it has a bisexual life. The place of the malarial parasite in zoölogy is difficult as yet to fix, many of its forms have several names and some have none. Under recent observations the eimeria is the endogenous phase of the coccidium. Two things are necessary to complete our knowledge of the life-history of these organisms, first, what circumstances determine the distinction of the merozoites and whether they proceed to the mosquito phase (bisexual cycle) or to the human phase (Golgi cycle); and, second, what becomes of the parasite during the long interval which sometimes elapses between the infection and the appearance of the attack. It is also desirable to know why crescents are so common in England and in the late autumn in Italy and not in tropical Africa and in the summer and early autumn in Italy. Among the mosquitoes only the *Anopheles* had been identified with infection, of these forty-eight species are known. The organism has been found in *Anopheles funestus, costalis, claviger, pseudopticus,*

superpictus, bifurcatus, and the as yet unidentified species of Ross. None of the two hundred and fifty classified species of *Culex* has been found an efficient carrier of the malarial parasite, but very few have been tested, namely, *Culex mimeticus, pipiens, teniatus, nemorosus, malariae* and three unidentified species of *Culex* experimented with by Daniels in British Central Africa. Recent observations of the natives in malarious districts show that seventy or eighty per cent. of children under one year contract the disease. Thereafter until the tenth or twelfth year the number diseased gradually declines, when a kind of immunity to the disease is established. Among postmorten examinations it is found in these regions that practically all deaths of malaria occur in children. Malarial pigment was present in twenty-five per cent. of all cases over one and under twelve months of age, in none under one month old, in fifty-four per cent. of those over one and below two years, in eighty-one per cent. of those between two and five years, in eighteen per cent. of adults above thirty years of age and in steadily decreasing ratios with each ascending decade thereafter, out of twelve hundred and eighty-nine cases examined for it by Daniels. Prophylaxis against malaria included four points, to avoid the natives, to take quinine, to destroy mosquitoes and to protect from mosquitoes. Absolute protection is an impossibility, but relative protection is both possible and of immense value.

L. SAMBON and D. C. LOW reported their experiments during the expedition in behalf of the Colonial Office and the London School of Tropical Medicine in the Campagna and in London. The idea of a relation between the mosquito and malaria existed even among the ancients and is found to-day among the tribes of malarial East Africa, where the same word means the fever and the gnat. Twenty years ago Manson proved that the mosquito is the host of the filaria Bancrofti and later Smith and Kilbourne that the pirosoma bigeminum is transmitted among cattle by the common tick. The experiments carried out by the authors were planned by Manson and consisted in the following parts: First, mosquitoes were bred, reared and infected in the Campagna and after several failures were finally successfully shipped to London. Here two healthy individuals allowed themselves to be bitten by insects of different shipments and each developed typical benign forms of malaria. The second feature of the observation was carried out in Italy by the speakers. In a special cottage designed to have the windows and doors open at all times, but carefully closed against the insects by fine netting, the observers lived throughout the malarial season, July 15th to October 15th. They took care not to go out earlier than an hour after sunrise or later than an hour after sunset, and at first wore veils when they were out-of-doors. This protection was finally dispensed with and the danger of being bitten was found to be infinitesimal. The conclusions they felt absolutely established are that only the mosquito is capable of transmitting the malarial organism, that protection from its bite means immunity, that such protection is easily obtained and that its maintenance does not interfere at all with the ordinary avocations of life.

W. J. SINCLAIR, at the Obstetrical Society of London, December 5th, contributed observations on the diagnosis and treatment of retroflexion of the pregnant uterus. The symptoms give an almost unmistakable syndroma and the treatment in a series of fifteen recent cases he had found to be simply the introduction of a watch-spring pessary after emptying both the bladder and the rectum. If the patient lie upon the side or as nearly as possible on the stomach, in a few hours a reposition will occur. In one patient the womb was held down by a fibroid tumor on its posterior wall, and in the cul-de-sac of Douglas. Abortion may be caused by a uterus so imprisoned. Abdominal section for a gravid uterus retroflexed is to be deprecated, but after an abortion ventral fixation is much recommended.

ALBAN DORAN in the discussion agreed that irritability of the bladder and retention of the urine are important diagnostic signs. Among recently reported instructive cases he names that of Konrad (Budapest) where relief came too late. Sloughing of the vesical mucosa and death three days after reduction occurred. Also Unterberger where pressure on the urethra had distended the bladder and finally the urachus. Also to Gemmell's (Liverpool) patient where abdominal pain and retention of urine led to the diagnosis of retroflexed gravid uterus. A fibroid was found to be the cause, was enucleated by abdominal section and the pregnancy continued to term. Szants reported a case where the relaxation due to typhoid fever was at the bottom of the malposition, manually reduced, and of its subsequent recurrence also treated in the same way.

J. I. PARSONS has found the air-ball pessary very serviceable and any slow method better than immediate reposition by hand. Adhesions in this malposition are very common, but he had never found such a uterus pregnant. If he ever did, abdominal section, liberation and ventral fixation would be the treatment.

A. L. GALABIN considered immediate taxis by far the best treatment, although the gradual pessary method is valuable. He places the woman in the knee-elbow position and first from the vagina, then, if failing, from the rectum, applies the necessary manual pressure. In only five per cent. of all his cases has anesthesia been necessary. Twenty-five years ago, without admission to the hospital and in the out-patient room without anesthesia, he was accustomed to reduce this deformity and never found any trouble except in the above range of cases. Abortion had never followed immediate taxis, but the slow method. Special pressure pessaries, he thought, are best in maintaining a reduction when recurrence threatened or in completing a partial one.

A. H. TUBBY, at the Society for the Study of Disease in Children, November 16th, exhibited an infant who at birth exhibited an imperforate anus and a rectovaginal fistula through which all the movements occurred. At the operation a probe was passed into the fistula and to the apex of the rectal cul-de-sac and exposed through an incision at the site of the normal anus. Then this incision was enlarged and the rectal mucosa was brought down and with some difficulty sutured to the lips of the cut. Unfortunately the stitches tore out and three months later the operation was repeated and succeeded admirably. No effort had been made as yet to cure the fistula itself. The same speaker also presented an angioma removed from a five-year-old child. It involved the whole left half of the scrotum as high as the external ring, was tough, inelastic, without impulse or translucency, reducible in size by firm continuous pressure, and corrugated on its surface as if by large deep varices. After removal it was found to be made of venous sinuses having their origin in the left corpus cavernosum near its root and imbedded in much connective tissue and fat.

G. CARPENTER showed a three-and-a-half-year-old-boy who presented many subcutaneous fibrous nodules. There was no personal of family history of rheumatism, no cardiac lesion, only slight enlargement of the liver and spleen. The sites of the lumps were chiefly the extensor surfaces of the hands, wrists, feet and ankles. The first appeared during his second year of life at about the fourteenth month, and since November, 1898, while under the speaker's care, had increased in number. Galvanopuncture had decreased individual nodes, but nothing seemed to prevent the appearance of new ones. Radioscopy failed to reveal bone disease. He has seen several cases of such nodes not of rheumatic origin, but never in a child so young, nor so long under observation. Microscopically they consisted of fibronuclear tissue.

SOCIETY PROCEEDINGS

NEW YORK ACADEMY OF MEDICINE—SECTION ON PEDIATRICS.

Stated Meeting, Held Thursday, December 13, 1900.

Thomas S. Southworth, M.D., Chairman.

Dilatation of Colon.—Dr. William L. Stowell presented a patient suffering from marked dilatation of the colon, which had persisted for some seven years. The patient is at present a boy of nine years, whose history is about as follows: He was nursed until he was a year old and had reasonably good health. During his second summer, which came in the nursing period, he had very severe summer complaint. For a time his life was in danger. He seemed to recover completely, however. After he was weaned he was given more oatmeal and other starchy substances than usual, yet he suffered from almost constant constipation. This became more and more obstinate as time went by, and for the few years past he has not had more than an average of one stool a week.

When the patient first came under observation the abdomen was found to be greatly distended and the transverse colon stood out very prominently across the region of umbilicus. The bladder also was distended and there was a history of enuresis at night. When the constipation had endured for several days the boy became dull and did not respond to stimuli. This more or less comatose condition seemed to be the result of intestinal autotoxemia. Occasionally the boy passed some scybalous masses, but when the bowels were moved they were often semi-fluid in consistency, although very dark in color. There was no difficulty in securing a free movement of his bowels when he came under observation, although they had not been moved for eight days. A simple high injection sufficed to bring away a large amount of fecal material. What came away had very much the appearance of city mud, black and glutinous in character, semi-fluid in consistency and with occasional hard masses in it. Before the bowels were moved his abdomen measured 71 c. m. in circumference. After the movement it measured 60 c. m. at the level of the umbilicus, which is 16 c. m. more than in a normal child of his age and weight.

Problem of Etiology.—No very definite cause could be found for the condition. There was no stricture at the anus nor higher up in the rectum. Examination with a bougie as far up as the sigmoid flexure failed to show any obstruction. The rectal pouch was very much dilated. The blood count failed to show the presence of any chlorosis and the anemia was not very marked and was probably due to the constipation. The plausible theory for the origin of the dilatation of the colon seems to be that the muscle fibers of the large intestines became overstretched by the accumulation of feces and thus peristalsis was absent. Nothnagel describes an autopsy on one of these cases in which the thickness of the muscular wall of the intestine was found to be one-fourth that of the normal muscularis intestinalis. One extreme case has been reported in which the colon was so much distended that it was ten inches in circumference When this patient came for treatment the first thought was of some form of malignant stricture of the intestine. No symptoms of this could be found, however, and the fact that the bowels were moved easily by enema speaks against this theory of origin. The boy's family was not a dyspeptic one, there were no signs of nervous disease in members of the family, nor were they constipated. There exists some distention of the stomach in the case and this with the noc-

turnal enuresis seems to point to a tendency to relaxation of all muscle fibers in the hollow viscera. The treatment consisted of the administration of belladonna, strychnine and aloin, with the idea of toning up the muscular fibers. For the present at least the bowels will have to be cleared frequently by enemata. When the bowels are free from accumulated feces the boy is reasonably bright, and his condition shows that the mental dulness at other times is pathological and not natural.

In the discussion Dr. Koplik said that the appearance of the boy's abdomen was very like that pictured in a recent article of Dr. Murchison's. The distention of the upper abdomen was characteristically similar. When Dr. Murchison's patient was put under an anesthetic, the tumor disappeared and the doctor concluded that it was a phantom tumor. Here there is objective evidence of the accumulation of fecal material. The possibility of its exaggeration by nervous influences must not be forgotten. The fact that the stomach is also distended may prove an important factor in the case. The extent of the stomach dilatation should be carefully ascertained. As the patient's abdominal walls are thin, this could be determined by passing the gastrodiaphane.

Colonic Stricture.—Dr. J. J. Walsh said that there is at least one case on record in French medical literature in which a French army officer who lived to be fifty-four had a movement of the bowels not more than six to eight times a year. The condition began in earliest infancy and the patient was neither impeded in his career, nor did he seem to suffer any serious inconvenience from his unusual retention of feces. In this case it was found at autopsy that a valve-like membrane occurred just above the rectum, which practically occluded the intestine. Above this there formed an immense colonic pouch in which the accumulation of feces took place. When the amount of feces became excessive, the distention of the colon made the valve incompetent and the feces found their way past it. In the present patient it is not easy to escape the idea that the severe summer complaint from which the child suffered in its second year may have had something to do with the constipation which developed. A stricture high up in the descending colon, or near the splenic flexure might account for the condition.

In closing the discussion Dr. Stowell said that the most careful examination failed to reveal any evidence of stricture and that a large bougie could be passed easily up to and apparently beyond the sigmoid flexure.

Status Lymphaticus.—Dr. David Bovaird presented the specimens from a nursling who had died suddenly with enlarged lymphatic structures, lymph-nodes and thymus. The child was about four months old and was being nursed by its mother in a foundling asylum. It had never been ill. It seemed to be in perfect health when its mother put it down for a few minutes to go to breakfast. The mother had only just begun her meal when the nurse noted that the child was having a convulsion. Before anything could be done it was dead. At the autopsy it was noticed that the child was suffering from craniotabes. This softening and thinning of the skull-bones involved not only the occipital, but also the parietal region. The whole cranial vault was very thin. There was also slight enlargement of the epiphyses of the long bones.

The thymus gland was found to be very large. It covered the heart except for a small part of the apex and it reached down and was attached to the diaphragm. Both its right and left lobe were enlarged, the left more so. Moderate enlargement of the cervical nodes was found, and there was marked enlargement of the bronchial nodes. The mesenteric nodes were very much enlarged and the spleen was hypertrophied and soft in consistency. The solitary follicles all along the intestine were enlarged and prominent. Peyer's patches were moderately enlarged.

Thymic Asthma.—In the cases of sudden death in which the thymus was found to be as much enlarged, as in this case, the unexpected fatal termination was formerly attributed to the enlargement of the thymus alone. In recent years enlargement of other lymphatic structures has been found to accompany the large thymus so constantly that the latter is now considered an important factor in the fatality. The *status lymphaticus* is now set down by many pathologists as at least the predisposing cause to sudden death.

There are undoubtedly certain cases in which the thymus alone must be considered as responsible for the sudden death. In some of these cases a more or less lengthy period of difficulty of breathing precedes the fatal termination. Some cases in which dyspnea asserted itself very seriously have been relieved by removal of a portion of the thymus gland. There are many cases, however, in which absolutely no symptoms precede the sudden fatal issue. In these there seems every reason to think that the lymphatic enlargements are a contributing cause of death. The mechanism of the etiology is not known.

Thymus as Principal Cause.—In the discussion Dr. L. Emmett Holt said that there is scarcely any question in pediatrics on which more light is needed than this one of sudden deaths in infants. They occur with surprising frequency. When they occur in hospitals or institutions they do not produce the sensation that is usual in private practice. Dr. Holt has recently seen four cases that were somewhat similar to this one recorded by Dr. Bovaird. He is not convinced that the general lymphatism is of more importance in the production of the sudden death than is the enlargement of the thymus alone. It is not an unusual thing at autopsy on infants to find many of the glands enlarged. This is found very often in cases that have died a lingering death. In the sudden

deaths the distinctive feature at autopsy is the enlarged thymus. How this produces death is not clear. A distended stomach for instance pressing up against a heart already laboring because of the pressure upon it of an enlarged thymus may cause the organ to stop entirely. Sometimes the distention of the intestines with gas may furnish the accessory etiological element necessary for the stoppage of the heart.

Edema of the Brain.—Dr. Sara Welt Kakels said that she has recently seen one of these cases of sudden death in the Mt. Sinai dispensary. The little patient suddenly became cyanosed, threw its head back and died in its mother's arms. At the autopsy, edema of the brain was found, as well as general lymphatic enlargement and enlarged thymus. It is important to note very carefully then in these cases whether the edema of the brain may not be the direct factor in the production of the sudden death.

Bronchial Abscess and Sudden Death.—Dr. Dwight Chapin said that it must not be forgotten that there are other causes of sudden death in children besides the lymphatic diathesis and the enlargement of the thymus. Some of them are obscure unless careful autopsy is made. In the case of a child who died suddenly some years ago, while suffering from a slight bronchitis with an average amount of cough the death took place during a slight coughing fit.

Autopsy showed that the death was due to rupture of an abscess in the mediastinum. The abscess began in a bronchial gland which had broken down as the result of infection.

Lymphatism and Fulminant Infection.—Dr. James J. Walsh said that any one who saw several of these cases of the so-called lymphatic diathesis could not but be impressed with the fact that the enlarged glands might be due to some infective process. In fatal cases of infectious disease in children during the first two years when the thymus gland is active, the thymus is often found enlarged at autopsy. The opinion has been advanced that the presence of the thymus gland during the first two years of life makes infants less liable to contract infectious disease than after the disappearance of the thymus. One of the functions of the thymus gland seems to be the manufacture of leucocytes and the protective influence of leucocytosis is well known. The question occurs then whether these sudden deaths in children may not really be due to some fulminant infection that becomes generalized through the circulation. The enlargement of the lymphoid tissues throughout the body and also of the thymus gland would then be nothing more than a protective reaction on nature's part against the advance of the infection.

In closing the discussion Dr. Bovaird said that no dilatation of the stomach existed in his case, which might account for the accessory mechanical factor necessary to produce stoppage of the heart. Edema of the brain was not found, although this was carefully investigated. No abnormality, pathological, or congenital, of any other organ was noted, although scrupulous care was exercised in the examination.

Diagnosis of Infantile Adenoids.—Dr. Walter F. Chappell said that the diagnosis of the presence of adenoid hypertrophy was much more difficult in infants than in children of an older growth. There are objective and subjective symptoms. Among the objective symptoms are mouth-breathing, snuffling, the existence of chest deformity and the peculiar expression of countenance so common in these children. Among the subjective symptoms are difficulty of breathing, headache and slow development of the intelligence. Dr. Chappell does not believe that many children are born with congenital hypertrophy of the adenoid tissue of the pharynx. In the last few years he has examined 437 children, among whom 45 under the age of seven months presented symptoms of respiratory obstruction in the upper air passages. In none of these cases were adenoids present. In a large number of post mortem examinations on new born children he has never seen adenoids present. The fact that adenoids are not congenital is important since it enables us to realize that they are caused by certain pathological factors and that it is perhaps possible so to modify pathological conditions that the development of adenoids may be prevented.

Among the causes of respiratory obstruction found in infants were lymphatic and lithemic conditions, syphilis, congenital atelectasia of the lungs, high-arched palate, small postnasal space, the projection of the bodies of the cervical vertebræ into the pharynx so that the breathing space was very much narrowed, besides some rare anomalous anatomical conditions.

Other Simulants of Adenoids.—Congenital atelectasia of the lungs resembles adenoids quite closely when it is not very extensive. If there is considerable atelectasia present then of course the diagnosis is not difficult. Small amounts require the most careful examination of the chest to determine their presence.

The congenital high palate is a much more frequent source of difficulty of breathing than is usually thought. This is sometimes said to be associated with adenoids but may exist independently and the anatomical conditions of the soft parts associated with it interfere with the breathing.

Congenital hypertrophy of the tongue is not a frequent source of difficulty in breathing and yet it must be borne in mind. Dr. Chappell exhibited a portrait of a marked case of hypertrophy of the tongue in which there had been difficulty in breathing for many years. At times when the large tongue becomes actively engorged with blood and increases the respiratory difficulties, the application of a leech may do some good. Enlargement of the tonsils may cause mouth-breathing, snoring and difficult respiration. This will lead to the suspicion of the presence of adenoids, although they may not

be present. The differential diagnosis of the two conditions is important. Their confusion has undoubtedly led to the idea that adenoids are much more frequent in children than they really are.

Hypertrophic rhinitis is quite common in children and produces a set of symptoms resembling those due to adenoids. It must not be forgotten that this hypertrophy often accompanies adenoids and the discovery of one affection should lead to an examination for the other.

Adenoids in General Practice.—Dr. Frances Huber said that advanced cases of adenoids are very easy of detection. Small adenoid hypertrophy produces little symptomatic disturbance. When colds are frequent in children and with each cold there is an enlargement of the tonsils and some enlargement of the glands of the neck, adenoids will usually be found to be present. Difficulty of respiration in children should not be attributed lightly to anemia, or nervousness, but should raise a suspicion of adenoids. There are certain external symptoms that may also lead the practitioner to suspect the presence of adenoid hypertrophy. There is a form of trachoma without involvement of the cornea that is sometimes seen in connection with adenoids. There is a prominent vein at the root of the nose which may call attention to the adenoid condition. The persistence of enlargement of the cervical glands, or the frequent recurrence of enlargement is also a suspicious sign. Where frequently recurring attacks of nasal catarrh come on, adenoids should be looked for. Sometimes the little patient likes to throw its head back over the arm of the nurse, because this is an easier position for respiration these cases. Irrigation of the pharynx sometimes relieves the symptoms. Cases with crowing respiration especially just during and after feeding often have adenoids. The diagnosis should be made with the finger rather than the mirror.

Practical Treatment.—The most important measure for the prevention and the cure of adenoid hypertrophy is attention to the general health. During exacerbations of the difficulty of respiration nasal irrigation will often give relief. Marked symptoms of adenoid obstruction, however, if unrelieved by operation will usually leave permanent symptoms of nasal obstruction. For a week before operation is performed, irrigation of the posterior nasal space should be practiced. In irrigating no force should be employed, or otitis media will result. Operations should be done in the intubation position with a sheet wrapped around the patient, or with the head between the operator's knees. In Germany and France no narcosis is employed, but in this country many operators prefer to use either chloroform or ether, especially the former. Halstead of Syracuse uses ether and a small amount of atropine. In this way there is less vomiting afterwards. Evans of Louisville reports a death during the operation for adenoids when the anesthetic employed was nitrous oxide. As a rule the operation can be done without an anesthetic and even this risk avoided. If tags of adenoid tissue are left after the operation, it may be repeated. Sometimes these tags of tissue are not remnants, but are new growths of adenoid tissue, since the operation. Children suffering from the hemorrhagic diathesis, or that show a tendency to the formation of petechiæ should not be operated upon. If hypertrophy of the turbinate structures of the nose exists, as well as enlargement of the adenoid tissues in the pharynx, then all the symptoms will not disappear after the operation. These two conditions are associated oftener than is thought and their association is frequently a source of disappointment after adenoid operation.

Adenoid Simulants.—Dr. Koplik said that a number of conditions in children simulate adenoids and cause operations to be needlessly done. He has seen several cases of swollen tongue that caused the mouth to be open and so produced difficulty of respiration, that might lead a careless observer to think of adenoids. He has seen bony obstruction in both nares through which not even the finest probes could be passed. This was an anatomical anomaly and an operation for adenoids would have been absurd. Operation for adenoids is not as simple as is sometimes thought. In choreic children especially great care should be exercised in the operation. The removal of the lymphoid tissue opens up large absorbent spaces through which reinfection may take place and an increase of endocarditis follow.

Otitis Media and Adenoids.—Dr. Wendell Phillips said that assurance in the diagnosis of adenoids was very important. Ear symptoms are often present. Recurrent suppuration of the middle ear often means adenoids. A single attack may be due to other causes. Digital examination for diagnosis is inadvisable for two reasons—First, the finger is not properly sterilized, the adenoid tissue breaks down when touched and may easily be infected; the second reason is that the little patient always leaves the doctor's office his mortal enemy. Always examine with a mirror and tongue depresser and explain to patients just what you are going to do, even though they may be very young. Where adenoids are allowed to remain adhesive bands form, which often cause the orifice of the Eustachian tube to be permanently patulous and so predispose to ear trouble. Heredity is an important element in the etiology of adenoids.

Gift by Dr. Herman Knapp.—Deeds were recorded conveying to the New York Ophthalmic and Aural Institute the property adjoining its present building. The conveyance is recorded as the gift from Dr. Herman Knapp, who for many years served as the head of the staff of attending surgeons of the institution.

THE SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

Stated Meeting, Held October 10, 1900.

The President, W. L. Baner, M.D., in the Chair.

(*Concluded from page* 114.)

Osteo-Arthropathy.—The patient showed a photograph of his brother, whose finger nails were similar to his own. His father had died in mid-life of cholera. His mother was still living and in pretty fair health, although she is alleged to have rheumatism. The fellow had a somewhat bronzed skin, leading one to suspect Addison's disease, and where his collar and waist band had gone around his body, there were dark lines. He had during the speaker's service, a low run of fever, which one would expect with such a large abscess. His blood showed nothing but the leucocytosis which accompanies extensive suppuration. The pus from the abscess had been examined for tubercle bacilli, but none were found. In Hare's Progressive Medicine for 1900 it is stated that only 140 cases of acromegaly have been so far reported. So far as the speaker knew, there had never been a case of pneumonic osteo-arthropathy reported in this country. One writer had declared that it is really a form of acromegaly.

Dr. Carr thought it would be of interest to find out if the adrenals were affected. It would be well to watch the condition of the man's strength and vitality. It might be that he had enough tuberculous history to give him tuberculous disease of the adrenals. The question would come up as to what connection it would have with his bronzed skin.

Dr. Bissell stated that he used to find these club-fingers a symptom in the consumptive ward of Charity Hospital, and that they were there considered to be symptoms of heart trouble as well as of tuberculous disease of the lungs.

Dr. Newton said one did not see such broadening of the nails in an ordinary case of phthisis. They were somewhat curved. The terminal phalanges were spongy in appearance, judging from the skiagraph. He should have stated also that the internal condyles of both femora were enlarged, as well as both internal malleoli. But the maxillary bones and zygomatic arches were apparently not enlarged, as is usual in acromegaly.

Eustachian Catheter.—Dr. McAuliffe said that in using a nasal catheter with the conventional curve, it was sometimes impossible to pass it, owing to large turbinates or anterior nasal stenosis. In order to distribute this angle along the curve of the catheter, he had been experimenting for some time, and found that a curve like the one he presented would pass into the Eustachian tube where the ordinary one would not enter. He had been gratified to see how easily it passed. Most of the directions given for the passage of the Eustachian catheter contained the old rules that they must either hook on the septum or hook on the palate before rotating, and advance a trifle; but by guiding this catheter tip along the floor of the nose, as soon as it touched the descent of the soft palate, the instrument was turned, and by the pressure of this very curve against the septum it slid into place without going through the ordinary manipulations. In a nervous patient it sometimes was passed with twice the celerity as with the other curve.

Pregnancy in Both Cavities of a Bilocular Uterus; Abortion.—Dr. Brooks H. Wells reported this case, which occurred twelve years ago. Mrs. X., mother of several children and about three months pregnant, was examined by a prominent specialist at his office because of uterine cramps and bleeding. He found protruding from the dilated os an ovum, which he removed, packing the empty uterine cavity with gauze to control a rather free bleeding. On calling the next day, he found the woman having quite severe pains with some hemorrhage, and on removing the gauze an ovum presented itself. Rather surprised by this unexpected event, he removed the ovum with the finger and the curette, and found by digital examination what seemed a hole, the diameter of a finger, in the right side of the cervical canal. A sound passed into this showed that the patient had a septum dividing her uterus into two cavities.

Pregnancy in the Right Cavity of a Bilocular Uterus; Abortion.—Dr. Wells also reported this case. Mrs. B. S., German, stout, and a multipara, consulted him in June, 1890, for the relief of bleeding and uterine pains, and stated that she thought she was pregnant and aborting. Examination disclosed a uterus enlarged and soft, as if from a pregnancy of eight or ten weeks. The cervix was soft and patulous, and there was a slight bloody discharge. It was decided that the uterus should be cleaned out, but, on passing in a small curette and ovum forceps, only an empty cavity was found. Somewhat puzzled, he packed this cavity with a strip of sterile iodoform gauze and sent the patient home. Her pains continued and the next day he examined her under anesthesia and found an ovum protruding through an opening in the right upper part of the cervical canal. This ovum was removed with some difficulty and her pains and hemorrhage ceased. Both of these cases were of pregnancy in the more rudimentary horns of bilocular uteri, and are interesting because of the diagnostic difficulties they presented.

Dr. George H. Mallett agreed with Dr. Wells in his handling of the case. Lately he had rather wandered from the use of much gauze, as it blocked up the secretions rather than promoted drainage. Its only use was to increase the contraction of the uterus. A hot irrigating fluid would usually do that. Unless there was much hemorrhage, he did not use the gauze. Dr. Wells' solution of the case was probably the correct one, as it must have been a double uterus to sustain all the manipulation. He had known cases where sounds had been passed repeatedly, and still the patients have gone to term.

Resistance of Pregnant Uterus.—Dr. Alvah M. Newman reported a case to show what a pregnant uterus will stand at times. The patient was in the habit of introducing water by means of a fountain syringe whenever she became pregnant. At times it was successful; and it was never followed by any ill effects when she did not abort. Between the ninth and twelfth week of her last pregnancy she used about four pints of wood alcohol by means of a hard rubber syringe. The introduction was easy owing to a second-degree procidentia. The alcohol produced severe pain each time it was used (4-6 ounces), but no other ill effect. The speaker delivered her one month beyond the expected date of confinement of a large child. This delay may have been due to an interruption of development by the use of the alcohol, although it is quite possible that she may have made a miscalculation. Dr. Newton also referred to the case of a servant, who came last summer to New York and had an abortion performed. She returned to Montclair and was sick for several weeks in the Mountainside Hospital. In curetting the uterus, the speaker found a partition through its middle, showing a double uterus. With a curette he pierced what seemed like an inkwell, and evacuated a large quantity of dark blood. She was very septic for about six weeks and was in a bad way when she left the hospital. The speaker saw her a few days ago, and she seemed in fair condition, though not exactly robust.

Interesting Cases in Dispensary Practice.—Dr. William L. Stowell read this paper. (See MEDICAL NEWS, page 90.) Dr. Rupp said he hardly thought that the case of dermatitis exfoliata could be mistaken for erysipelas. As to typhoid fever in tenement-houses being catching, it was a good thing to teach the people *how* it is catching; that is, through filth. The doctors did a sort of missionary work by telling them to be clean. He spoke of one family, where there had been an epidemic. The brother and sister slept in a small room, not large enough for a single person to sleep in. These were both severe cases of typhoid fever. In regard to giving the coal-tar products, that depended on the sense of the man; he had seen two-grain doses in children produce cyanosis, but had never seen any harm done in giving antipyretics to adults or children, though sometimes people were frightened by it.

Dr. Newton thought the proper diet was the most puzzling thing in the treatment of typhoid fever. He lost a case two years ago. The patient was a young officer who came back from Camp Thomas, where they had so much typhoid. The day he died he had been given a raw egg, and had an attack of dyspnea followed by heart-failure, and the speaker thought perhaps this might have been due to indigestion. He had seen another case where eggs seemed to cause death, and had heard other doctors relate similar experiences. He had read an article on typhoid by an English writer, in which he cautioned every one to be exceedingly careful how they altered the diet in typhoid cases, saying that the slightest alteration might turn the scale in some severe cases, and might convert mild cases into severe ones.

Dr. Baner said that patients with typhoid fever were always apt to have relapses, and if they happened to have a relapse after being given solid food, it would be attributed to that. He had seen a number of cases in which the family undoubtedly always thought that death was caused by the patient having had solid food, generally some form of egg food. It was impossible to say whether it really had anything to do with the relapse. One of Dr. Stowell's questions was whether mustard baths shortened the duration of the inflammation. He had seen cases where undoubtedly giving a mustard bath increased the duration of the inflammation, as the lung was so much involved and dyspnea so great that it did not seem as if the child was going to live; a mustard bath lengthened the duration of the inflammation by saving the child's life. In regard to the coal-tar products, if properly used, as Dr. Rupp said, they were very valuable.

Dr. Carr said that lately a good deal had been added to the subject of how to feed a typhoid patient. One of the most recent was an article by Dr. Seibert, on the use of an exclusive soup diet. Dr. Seibert claimed very satisfactory results, both in adults and in children, by this method, basing his claim primarily on the fact that by the use of milk the number of bacteria in the intestinal canal was increased, and in that way there was not only a typhoid infection to treat, but the risk of other infections due to the milk. With soups there was less disturbance, because of less feeding material for the bacteria. He had carried out this treatment only partially, and in cases where soup diet was used at times in combination with milk, it seemed to relieve the flatulence and distention. In the use of an exclusive milk diet in typhoid, physicians would often give the milk rather thoughtlessly, as if the digestion of the typhoid patient was as good as one in ordinary health. Many people never digest milk well. If they took an exclusive diet of milk all day without any exercise, they would be flatulent, uncomfortable and constipated. If milk is given some care should be exercised for the state of the digestive organs. He diluted the milk or peptonized it, or gave koumiss or matzoon. He had never seen any bad effect from the egg as he gave it, the yoke beaten up with sherry wine. He spoke of an old physician whose favorite prescription was an egg emulsion, a mixture of wine and egg, a tablespoonful every two hours. He should question the advisability of giving a whole egg to any typhoid convalescent, because eggs sometimes caused indigestion. During convalescence in typhoid, the heart-muscle was weak, and any distention of the stomach and displacement of the heart, would interfere with its action and perhaps cause death. Dr. Peabody and other clinicians suggested some plans of treatment exclusive of milk. With reference to the typhoid in children, all recognized that it was apt to be less intense in its poison, run a short course,

and the percentage of mortality was low. Children did well almost invariably without much medicinal treatment. The important thing was to see that they were comfortable and treated symptomatically. They were more likely to be constipated than to have diarrhea.

Dr. L. Marcus said he happened to be in the service of Dr. Seibert in the hospital and could speak personally of the influence of a diet entirely of meat broth. The concentrated beef broth was given to the patients, and usually they were very comfortable and never gave any sign of tympanites. With regard to the cases in that same service under Dr. Lellmann, it was his rule to give every typhoid patient three raw eggs a day, and this was usually carried out from the first day of admission, unless the patient showed some disgust for eggs. He always gave milk, and the whole egg was beaten up in the milk. At that time (1897-98) the mortality was well under two per cent. Dr. Seibert relied entirely on antipyrin to reduce the fever. His form of treatment was to give five grains as soon as the temperature was up to 103° F., and after that kept giving five grains, until the patient's temperature dropped. The speaker never saw any patient suffer bad results from the drug, and they did not follow it up with stimulants until toward the end.

Dr. Bissell said he had heard nothing about the bath treatment. He thought that this was a standby in reducing the temperature of typhoid patients, and either tubbing or sponging was at once resorted to if the temperature rose to a specified point.

Dr. Stowell said these were tenement cases and there were no facilities for bathing, but in the hospital almost every one was bathed more or less.

Dr. Rupp gave his testimony with reference to eggs in typhoid fever. He never saw them do any harm. At present he had a patient, a young man nineteen years of age, who would not eat anything day, and they had no influence on the tympanites. but eggs, ate two or three soft-boiled eggs every The speaker impressed on him that he must chew the egg well and wash it down with water. It had no bad effect on the temperature. As Dr. Carr had said, there was a great deal of latitude in treating typhoid cases and one case could not always be treated like another. Some people would not eat at all. The soup treatment of Seibert, he did not think was anything new. Some Germans ate a great deal of soup. Virchow wrote a popular article some years ago saying that soups were not nutritious, and were not worth swallowing as nutriment.

NEW YORK ACADEMY OF MEDICINE—SECTION ON ORTHOPEDIC SURGERY.

Stated Meeting, Held November 16, 1900.

A. B. Judson, M.D., Chairman.

Fracture of the Femur at Birth.—Dr. T. H. Myers presented a baby, one month old, under treatment for fracture of the femur just below the trochanter minor. The child was the second of twins and presented by the breech. The forceps failing, a hook had been used and caused the fracture with the very unusual displacement of the lower end of the upper fragment backward in spite of the tendency of the psoas and iliacus to pull it forward. The next day the child was in great distress. There was extensive ecchymosis at the seat of the fracture, ⅜ inches shortening, edema of the limb and eversion of the foot, and, on any slight motion, the muscles attached to the anterior superior spine were thrown into a marked spasm which drew the lower fragment forward. A plaster-of-Paris jacket was applied in which was incorporated a steel bar, ¾ x ⅛ inch, extending from the angle of the scapula to the toes, and bent at a right angle at the buttocks and the heel. Traction was made and eversion overcome by adhesive plaster applied to the limb and fastened to the steel footpiece. The plaster of Paris enclosing the pelvis provided secure counter-traction. A light plaster-of-Paris bandage secured the limb to the splint and held back the upper end of the lower fragment. A fenestrum permitted the dressing of the cord. The child fell asleep at once on this application which made after attendance easy and promoted the comfort and general health of the patient. No displacement. Shortening ⅛-inch.

Dr. V. P. Gibney said that fixation had been secured in an admirable manner. He asked why the limb had been flexed.

Dr. Myers replied that he had in that way sought to relax the psoas and iliacus muscles in order to reduce the unusual displacement. He had also seen a directly lateral displacement in a case of fracture of the neck of the femur probably caused by traction with the hook.

Dr. S. A. Twinch related the case of a child whose right femur had been broken at the junction of the middle and upper thirds in a difficult labor. The next day the limb was edematous and almost black. He had put the limb up in a plaster-of-Paris spica with the thigh flexed nearly at a right angle and the leg somewhat flexed. Eighteen days later the dressing was removed and the bone was found united in good position, but with considerable callus. He recalled a recently reported case of the same kind in which a good result followed retention in place for three weeks of a starch spica bandage. The patient had been examined when twenty years old, and it had been impossible to tell which leg had been broken.

Dr. G. R. Elliott said that the mechanical problem was how to secure apposition and fixation, a problem well solved by the use of a steel band and plaster-of-Paris, but capable of solution by easier methods as by the use of adhesive plaster.

Dr. A. B. Judson said that fractures in infancy usually united with great readiness and but little ultimate deformity.

Dr. H. L. Taylor said that when the femur was broken in so young a child deformity was not an

uncommon result, which he thought could not follow the method exhibited.

Dr. M. G. Campbell, of Atlanta, Georgia, commended the skill and care with which the baby had been treated which were in marked contrast to the too prevalent idea that nothing of importance could be done for one so young. Before pain had been relieved and muscular spasm overcome, rest had been impossible and feeding difficult, two things on which the welfare of a baby absolutely depends.

Dr. Myers said that a common method of placing the child in bed on its back and suspending the legs vertically made nursing difficult and did not control the position and secure immobilization so well as had been done in his patient, who lived at home and was conveniently carried to the hospital for attendance.

Incipient Hip Disease.—Dr. Judson presented a girl, seven years of age, with symptoms of disease of the left hip of twelve weeks' duration. There had been lameness and pain in the knee, the latter so severe that the child had to be lifted very carefully. Rheumatism was excluded. Night cries had followed unusual exercise during the day. Pain and lameness had been inconstant, recurring after intervals in which the child was apparently entirely well. General condition excellent. A diagnosis of hip disease had been made, in consultation with the family physician, on the above history, and the following signs which were observed October 25, 1900: Fulness of the left groin and flattening of left natis, the left gluteal fold more shallow than the right, left thigh and leg ½ inch and ¼ inch less in circumference than the right, and limitation of extreme motion in every direction with reflex muscular action. Limitation of motion was not found at the second examination, but reappeared at a later date. On presentation the child walked when the splint was off with no defect in her gait. When she was examined slight limitation of motion and reflex spasm were found by different observers on attempting extreme flexion, extension, abduction, rotation and abduction with reflex muscular action. Limitation of chiatic crutch had been applied November 15th, to be worn during the day with a high sole on the well foot, directly to relieve the limb from the labor of locomotion and the affected bone from bearing the weight of the body, and ultimately to permit resolution of the inflammation by natural processes. Prognosis: Absorption or incarceration of the focus in the cancellous tissue and recovery, after one year or two years, without deformity or any trace of disability.

Dr. Taylor and Dr. Myers recognized the presence of some of the signs of hip disease and thought that a positive diagnosis required further observation.

Dr. Gibney said that after the reported and present examinations he would give the patient the benefit of the doubt and consider the case as an incipient one, and, if changes occurred requiring more drastic measures, he would seek very seriously to overcome the reflex spasm by immobilizing or putting the parts at rest. If the perineal crutch could be relied on to give the hip rest enough so that resolution would take place, however small the focus or wherever located, the treatment was perfectly justifiable. He appreciated the importance of protection from weight and concussion, but thought that an apparatus which allowed pressure of the toe on the ground did not give enough protection to the joints, so far as reflex muscular spasm was concerned. He questioned whether it did not add to the reflex spasm to have the patient stepping on the toe and ball of the foot.

Dr. Judson said that the ischiatic crutch, as commonly worn, allowed the anterior part of the foot to reach the ground. The toe could be entirely removed from the ground by using a longer crutch and a higher sole, but this would lessen the ability of the patient to walk. He thought there was an important difference between concussion transmitted from the heel through a straight bony column to the affected joint and the same modified in transmission by the interposition and action of the ankle-joint controlled by the muscles of the calf.

Dr. Gibney thought that protection of the joint was not so important as relief obtained by preventing reflex spasm.

Dr. Elliott questioned whether the form of apparatus worn by the patient was sufficient in a patient having a good deal of reflex spasm.

Dr. Taylor questioned whether in a case presenting well-marked symptoms it would not be better to apply a splint with adhesive plaster to be worn day and night than to use an ischiatic crutch to be removed at night.

Dr. Judson said he had lost faith, if he ever had any, in the effect of apparatus designed to elongate contracted muscles or to arrest or prevent reflex action by a direct mechanical pull. Indirectly these important objects were gained by arresting the functions of the diseased joint, thus permitting abatement and resolution of the inflammatory action, which was the incitement of reflex muscular action. The latter ceased as soon as arrest of function brought about resolution. The two chief functions of the hip-joint were motion and weight-bearing, and the latter, carrying with it concussion, was more important as a factor in pathology and treatment than the former. The ischiatic crutch did not so thoroughly remove the weight of the body as putting the patient to bed, but the other advantages were obvious. It practically put the limb to bed and let the patient run about and go to school. In the painful periods of hip-disease the traction splint, combining the protection of the crutch with traction by adhesive plaster, was indispensable for the relief of pain by fixation.

Convalescent White Swelling of the Knee.—Dr. Judson presented a boy seven years of age, slowly convalescing under mechanical treatment for white swelling of the left knee. A year ago the patient's general condition was most unfavorable and locally there were sinuses surrounding the knee, great swelling and the usual evidences of a

disintegrating joint. His condition and the method of his treatment were (see MEDICAL NEWS, Dec. 30, 1899, LXXV, pp. 855, 856) described when he was presented to the Section on October 20, 1899, and the opinion was expressed that it was a case in which operative surgery should be practised in order to save life. Continued reliance, however, had been placed on the reparative natural processes assisted by mechanical treatment. In spite of the most unfortunate and discouraging environment, improvement had been marked generally and locally. The tumor was very much reduced and firm scars had taken the place of nearly all the sinuses. A year ago the child was emaciated and distressed, but, on examination, he was found to be well-nourished and comfortable. Treatment would be continued by a fixative brace worn day and night and an ischiatic crutch worn only during the day. Prognosis was still in favor of a useful limb, of good length, with no flexion and no deformity except a slight and unimportant degree of subluxation.

Dr. Elliott said that some of the swelling might be gotten rid of by systematic compression and drainage and removal of the tight band above the knee.

Dr. Judson said that the tumor of white swelling of the knee disappeared with the other signs and symptoms which yielded in due time to natural repair and restoration assisted by treatment. What appeared to be a tight band was that part of the fixative apparatus which made pressure from before backward near the joint in opposition to the counter-pressure made by the ends of the brace from behind forward at the extreme upper part of the thigh and lower part of the leg. There was no constriction or interference with circulation or nutrition at any point as no part of the brace was allowed to touch the posterior surface of the limb near the joint. The apparatus was a simple lever and any other arrangement of it would destroy the leverage which was relied on to arrest motion and reduce the flexion.

Dr. Taylor said that this result reminded him, by contrast, of the many patients whom he had seen with limbs disastrously shortened and deformed as the result of excision, an operation which interfered with the growing epiphyses, leading frequently to a shortening of 6 to 8 inches. He recalled an instance of this operation in which the result was complete dislocation of the tibia backward and a flail joint.

Dr. Gibney said that the best surgical practice omitted excision of the knee in children. He saw too many patients coming for the correction of deformity and almost hopeless disability, the result of excision. To save life amputation was required, in certain cases, but never excision in a child. He advocated a country branch to a hospital, open the year around, where children could be on a farm and have simply nurses and a physician or two to look out for them and do very few operations.

Dr. Judson said that the admirable plan thus outlined was too purely expectant. He would add thorough and painstaking mechanical treatment which, no less than good food and wholesome surroundings, reinforced the processes of recovery in growing children.

Dr. Myers said that general surgeons should agree with orthopedic practitioners in interdicting excision of the knee in children. He had kept a boy under strict observation for six years after his knee had recovered to prevent excision for deformity until he attained his growth. He returned from a vacation, however, to find that the patient had been sent to a general hospital where excision had been done at once with recurrence of extreme flexion with lateral deviation and the certainty of more shortening with further growth.

Cases of Funnel Chest.—Dr. Taylor reported the case of a girl, six years of age, seen in September, 1900, with a remarkable congenital depression at the lower end of the sternum, an instance of typical funnel chest of moderate degree. There were no evidences of rickets and the child's health was good. She was the fifth child in a family of seven. Her mother had the same deformity, but knew of no other cases in the family. This condition was usually attended by some displacement of the heart, but without impairment of circulation or respiration. Persons thus deformed had made fair athletes and soldiers.

Fatal Case of Abscess in Cervicodorsal Pott's Disease.—Dr. Gibney exhibited a specimen from a patient affected with Pott's disease with deformity. The girl, five years of age, had been treated as an out-patient by a head support for two and one-half years. The appearance of an abscess over the spinous processes of the last cervical and first and second dorsal vertebræ made it difficult to adjust the support properly and the child became an in-patient. Aspiration gave only partial reduction of the tumor and a sinus was established by an incision after which the child was going about the ward with the head support comfortably readjusted. In the afternoon of November 8, 1900, cyanosis appeared, was relieved when the patient was put in bed, but recurred during the night, when death seemed imminent. On November 9th, a tumor was found in the outer portion of the left cervical triangle with deep fluctuation. Pressure did not increase the flow from the sinus, but added to dyspnea. Traction by the weight and pulley failed to give relief. Attempts at exploration of the pharynx increased cyanosis. Under ether (3 drams) an incision two inches in length along the sternocleidomastoid exposed the carotid and a needle procured cheesy pus. With the finger between the carotid and esophagus a second sac was ruptured with the evacuation of four ounces of pus and some bone detritus. A drainage-tube was inserted. Respiration became easier. Temperature 104.4° F. in the afternoon. November 10th and 11th the patient slept fairly well at night, but with a good deal of coughing and had recurrences of difficult breathing and cyanosis during the day. The temperature fell to 100° F. After sleeping the early part of the night the patient died suddenly on November 12th at 3:30 a. m. Autopsy in the afternoon showed recent pleuritic adhesions with

normal lungs and abdominal viscera. The two abscesses did not communicate with each other directly. Cavities in the vertebral bodies communicated with the sac of the second abscess which extended along the anterior and lateral aspects of the vertebræ and downward behind the pleura and almost surrounded the esophagus. The pleural cavity was not invaded. There had been no paralysis. The cord was found to be pretty good in consistency all the way up. He had seen no less than six children die unexpectedly in the night with abscesses arising in this location from carious vertebræ. Autopsies had not made clear the cause of death.

Dr. Myers referred to the case (related at the meeting of March 18, 1898), of a boy, seven years of age, affected with vertebral disease in this location, and an abscess discharging in the posterior triangle, whose temperature, on repeated trials, rose when the boy was up and fell when lying down facilitated the drainage of the abscess.

BOOK REVIEWS.

CONSUMPTION: ITS NATURE AND TREATMENT, with a Chapter on Bacteria and Antiseptics. By WILLIAM H. SPENCER, M.A., M.D., Cantab.; M.R.C.P. London. Henry J. Glaisher, London.

THE CARE OF THE CONSUMPTIVE. By CHARLES FOX GARDINER, M.D. G. P. Putnam's Sons, New York and London.

NORDRACH AT HOME, OR HYGIENIC TREATMENT OF CONSUMPTION. Adapted to English Home Life. By JOSEPH J. S. LUCAS, Late Medical Registrar and Pathologist at North London Consumption Hospital. Simpkins, Marshall, Hamilton, Kent & Co., Limited, Iondon.

ÆTIOLOGIE UND PROPHYLAXE DER LUNGENTUBERKULOSE. By DR. J. RUHEMANN, Berlin. Gustav Fischer, Jena.

EACH of these four little books is an index of the present-day views with regard to the treatment of tuberculosis. All of them insist on the necessity for plenty of fresh air, a liberal diet and symptomatic treatment. None of them rates any specific treatment for tuberculosis at any high value.

Dr. Spencer draws the conclusion that "the methods of practical medicine in the treatment of diseases, where bacterial agency has more or less part, are not to be limited to the use of remedies with a view to affect directly the micro-organisms themselves," and that "bacterial life and its consequences may certainly be arrested by changing the character of the bacterial soil and food and by changing conditions needful in order that a right use be made of the food. But this is not to touch bacteria, it is to touch their soil."

Dr. Gardiner discusses the treatment, not of consumption, but of the consumptive patient, an important distinction. His chapter on the pschycology of the sickroom should be read by every physician. It contains much that we all know, but are constantly forgetting. These sentences are pregnant with good suggestions: "It is often very pathetic to see the well-meant, but ignorant and awkward efforts of the family nurse in taking care of a nervous consumptive. A mother in her care of a son, urged on by love and a constantly wearing anxiety for his comfort and recovery, will, in season and out persistently wrap up, admonish, direct and fuss until her very presence becomes little short of torture to a sensitive boy."

Dr. Lucas' little book on Nordrach gives just those details with regard to the home life of a consumptive that it is important for the physician to insist on in his directions to patients—the regulation of windows, for instance, the temperature of living rooms, the clothing to be worn, with a special deprecation of chest protectors and mufflers, the food, its quantity, quality, and variety, with adequate details as to the diet and meal-times. Then, such subjects as the regulation of rest and exercise are treated in a practical straightforward way that cannot fail to be helpfully suggestive.

Dr. Ruhemann's book treats more especially of the important questions of the etiology and prophylaxis of tuberculosis. The influence of a preceding attack of influenza in preparing the soil for the tubercle bacillus is especially insisted on. The favorable influence which subsequent attacks of influenza have on the progress of the tuberculosis is brought out by some very interesting clinical data. Finally, the importance of sunlight as a prophylactic agent against the development of tuberculosis and as a curative agent in hindering the progress of the disease is made very clear.

THE INTERNATIONAL CLINICS. A Quarterly of Clinical Lectures and Especially Prepared Articles by Leading Members of the Medical Profession Throughout the World. Edited by HENRY W. CATTELL, A.M., M.D., Philadelphia. Volume III. Tenth Series. J. B. Lippincott Co., Philadelphia, 1900.

THE first fifty pages of the present volume of the International Clinics consists of a symposium on genito-urinary diseases. The articles on the treatment of soft chancre by Professor Alfred Fournier, of Paris; on extra genital chancres by L. Duncan Bulkley of New York, and on aseptic urethral instrumentation by Ferdinand C. Valentine of New York, are sure to be suggestive and valuable to the non-specialist. In the thirty pages devoted to therapeutics there are three articles of very practical interest—the use of digitalis for children by Charles Ross Jackson of New York; the treatment of typhoid fever in childhood, particularly by cold baths, by Professor Marfan of Paris, and respiratory gymnastics for tuberculous patients by Dr. Ferdinand La Grange of Vichy, France.

The subject of phlebitis always an interesting one to the general practitioner is treated suggestively from two different standpoints, by Professor Pinard of the Bandelocque Clinic, and Merigot de Treigny, both of Paris. The latter discusses the important question, how long must a case of phle-

bitis be immobilized? The conclusion is that the average period of necessary immobilization can be fixed at six weeks, reckoning from the commencement of the last acute phase.

A valuable contribution from the pen of the late J. M. Da Costa of Philadelphia, includes the discussion of such interesting subjects as diphtheritic paralysis, arthropathy in lead poisoning and syphilitic liver. It carries with it the sad reminder that another of our great American clinicians has departed. Fortunately the record of his clinical work remains as a heritage for the present generation.

Dr. G. L. Walton of Harvard presents a good common sense discussion of the much-abused subject of degeneracy. He points out the anatomical, physiological and mental stigmata of the degenerate and gives a very conservative appreciation of the value of these stigmata as the basis for opinions in neurology. Certain of the articles in this number of "The Clinics" are more conventional than usual. Subjects are touched on too briefly to be enduringly suggestive, and there is a crowding of material not due to advised compression or to appreciative omission that detracts from the value of an otherwise very helpful volume.

SANITY OF MIND. A Study of its Conditions, and of the means to its Development and Preservation. By DAVID F. LINCOLN, M.D. G. P. Putnam's Sons, New York and London.

THIS is an interesting volume of some 176 pages, nicely printed and well bound. It takes up in a semi-popular manner several topics which are always of interest to the follower of medicine and to the student of social science. The nature of mental derangement, degeneracy, education, self-education and social and civic duties are the several chapter headings.

There is nothing profound in the presentation, nor do we find anything that is new; in fact, the observations are thrown together in quite a helter-skelter manner, but withal the book is suggestive.

A MANUAL OF HYGIENE AND SANITATION. By SENECA EGBERT, A.M., M.D., Professor of Hygiene and Dean of the Medico-Chirurgical College of Philadelphia. Lea Brothers & Co., Philadelphia and New York.

THE fact that a second edition of a handbook on hygiene and sanitation should be demanded in less than two years points to an interesting change in medical interest in recent times. This is expressed by the unselfish effort to promote sanitary measures so characteristic of the modern physician. It has given rise to the maxim that the medical profession is doing more than any other to put an end to its own usefulness. The feeling has become universal now that physicians must be able to direct patients how to keep well besides helping to the restoration of health when ill. The physician has a further duty to the community as well as to his own clientele in the cultivation of sanitary conditions. The growth of these feelings has made manuals of hygiene popular. Dr. Egbert's book of 425 pages is a clear, succinct and, as far as its limits will allow, a very complete résumé of modern hygiene. The subjects of ventilation and heating of water and its dangers, of food adulteration, and of school hygiene are especially well treated. Each of the subjects is taken up from a common sense, practical point of view that cannot fail to be of service to the practitioner. It is this that necessitates the second edition within so brief a period after the publication of the first. This will undoubtedly make this new edition sell as rapidly as the first.

MENTAL AFFECTIONS. An Introduction to the Study of Insanity. By Dr. JOHN MACPHERSON. Macmillan & Co., New York.

THIS volume consisting of less than 400 pages made up of the writer's lectures, extended and rearranged, is one of the most important contributions that has been made recently to the etiology of insanity and to the interrelationship of the neuroses, phychoses and diatheses. It is the work of a thoughtful, erudite mind and merits careful, close perusal and study, not alone by the student of psychiatry, but by the general practitioner, psychologist and sociologist. A glance at the table of contents conveys an idea of the scope of the work. Part I. contains chapters on Morbid Heredity, the Evolution of Insanity and the Determining Causes of Insanity. Part II. is taken up with a discussion of the Physiological and Histological Aspects of the Nervous System, Psychological Considerations and Pathological Symptomatology, including hereditary degeneration and cerebral dissociation. Part III. is devoted to Clinical Symptomatology and forms the bulk of the volume. Here the different forms of insanity are considered in detail, yet with notable absence of intricate classification, archaic nomenclature and prolix verbiage which unfortunately characterize many treatises on mental diseases intended for the general practitioner. The chapters on Insanity of the Degenerate is deserving of special commendation. The author is among the first of the British writers to convey the impression of an adequate and comprehensible grasp of the subject of paranoia. He discusses it under the title of Systematized Insanity in the Degenerate (Paranoia Degenerativa). The subject of Insanity with the Neuroses is less satisfactory, not only in manner of handling, but in conception and portrayal. Approached in a critical spirit there is much in the book with which to disagree, mainly questions of fact and belief based upon experience; but despite this the volume is a trustworthy guide for the student, a faithful exposition for the general practitioner and a highly suggestive, comprehensive account of the psychoses for the general medical reader.

BOOKS RECEIVED.

AN AMERICAN TEXT-BOOK OF PHYSIOLOGY. Edited by Dr. W. H. Howell. Second Edition Revised. Vol. II. Muscle and Nerve; Central Nervous System; The Special Senses; Special Muscular Mechanisms; Reproduction. 8vo, 553 pages. Illustrated. W. B. Saunders & Company, Philadelphia and London.